

APPENDIX D

Proposed General Plan Text and Map Amendments

Draft Subsequent Environmental Impact Report

North Bayshore Precise Plan (Residential Uses)

**City of Mountain View
March 2017**

MOUNTAIN VIEW 2030 GENERAL PLAN

GENERAL PLAN MAP AND TEXT AMENDMENT

Subject: North Bayshore Precise Plan Update Residential Uses

[DATE OF ADOPTION]

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Table 3.1 Population and Jobs, 2009 and 2030 Projection

Planning Area	Population		Jobs	
	2009	2030	2009	2030
San Antonio	12,320	16,130	2,680	3,780
Moffett/Whisman	13,740	16,560	13,860	19,190
Central Neighborhoods/Downtown	11,400	12,440	6,510	7,400
Monta Loma/Farley/Rock	13,790	15,060	6,920	7,670
Miramonte/Springer	9,540	10,250	4,830	4,900
Grant/Sylvan Park	10,610	10,820	2,470	3,250
North Bayshore	760	2,960 17,998	17,480	28,080 38,910
El Camino Real	1,700	4,350	5,710	6,550

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LUD 15.5: Residential Development: Allow residential development along the North Shoreline Boulevard corridor and other areas identified in the 2030 General Plan Land Use Map.

...

LUD 16.2: Mix of Uses: Create and promote Promote the North Shoreline Boulevard corridor Bayshore Area as a vibrant mix of residential, commercial, service and entertainment uses through the North Bayshore Precise Plan.

...

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Table 3.4 Acreage of Land Use Designations	
Land Use Designation	Acres
RESIDENTIAL	<u>2,910</u> <u>2,908</u>
Low Density Residential	1,409
Medium-Low Density Residential	217
Medium-Density Residential	810
Medium-High Density Residential	345
High Density Residential	<u>22</u> <u>20</u>
Mobile Home Park Residential	107
COMMERCIAL	<u>122</u>
Neighborhood Commercial	20
General Commercial	58
Industrial/Regional Commercial	44
OFFICE/INDUSTRIAL	<u>1,071</u> <u>1,088</u>
Office	20
General Industrial	<u>216</u> <u>218</u>
High Intensity Office	<u>835</u> <u>850</u>
MIXED-USE	<u>586</u> <u>571</u>
Neighborhood Mixed-Use	17
General Mixed-Use	14
Mixed-Use Corridor	242
North Bayshore Mixed-Use	<u>140</u> <u>125</u>
Mixed-Use Center	98
Downtown Mixed-Use	75
PUBLIC/INSTITUTIONAL	<u>1,703</u>
Parks, Schools and City Facilities	335
Regional Park	1,012
Institutional	356
TOTAL	6,392

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The 2030 General Plan's *North Bayshore Mixed-Use* land use designation would also be amended with adoption of the proposed General Plan amendment. The allowed land uses, floor area ratios, densities, and building heights within this designation would be amended as follows:

North Bayshore Mixed-Use promotes a vibrant mix of retail, including restaurants and services, along with residential, offices, lodging, entertainment and small businesses along the North Shoreline Boulevard corridor. Pedestrian and bike paths connect this area to surrounding office campuses and other areas.

- *Allowed Land Uses:* Office, commercial, lodging, entertainment, ~~and residential~~ allowed east of North Shoreline Boulevard between La Avenida and the flood retention basin, between North Shoreline Boulevard and Joaquin Road, and south of Plymouth Street, as shown on the General Plan Land Use Map.
- *Intensity (office):* 0.35 FAR; ~~office~~ intensities ~~above~~ between 0.35 FAR and up to to 1.5 FAR may be permitted with measures for highly sustainable development and public benefits specified within zoning ordinance or precise plan standards; ~~residential and lodging intensities up to 1.85 FAR permitted, inclusive of other uses in mixed-use projects (approximately 70 DU/ac or 60 – 150 residents per acre)~~
- *Intensity (residential):* 1.0 FAR (approximately 40 DU/ac or 40 – 80 residents per acre)
- *Intensity (lodging):* 1.85 FAR
- *Intensity (mixed-use):* Mixed use intensities are defined within Precise Plan or zoning ordinance standards
- *Height Guideline:* Up to 8 stories ~~for office and lodging; up to 15 stories for residential~~

The 2030 General Plan's *Mixed-Use Center* land use designation would also be amended with adoption of the proposed General Plan amendment. The allowed land uses, floor area ratios, densities, and building heights within this designation would be amended to be consistent with the proposed revisions to the North Bayshore Precise Plan. The proposed amendments to the *Mixed-Use Center* designation are as follows:

Mixed-Use Center promotes pedestrian-oriented mixed-use centers with integrated, complementary uses such as entertainment, restaurants, residential, department stores and other retail, office, hotels, convention/assembly and/or civic uses and public spaces that draw visitors from surrounding neighborhoods and the region.

San Antonio

- *Allowed Land Uses:* Office, retail and personal services, multi-family residential, lodging, entertainment, parks and plazas
- *Intensity:* 2.35 FAR (approximately 70 DU/acre or 60 - 150 residents/acre), of which up to 0.75 FAR can be office or commercial.
- *Height Guideline:* Up to 8 stories

North Bayshore

- *Allowed Land Uses:* Office, retail and personal services, multi-family residential, lodging, entertainment, parks and plazas
- *Intensity (office):* 1.0 FAR; intensities between 1.0 FAR and up to 2.35 FAR may be permitted with measures for highly sustainable development and public benefits specified defined within zoning ordinance or precise plan standards
- *Intensity (residential):* 1.0 FAR (approximately 40 DU/ac or 40 – 80 residents per acre)
- *Intensity (lodging):* 1.85 FAR
- *Intensity (mixed-use):* Mixed use intensities are defined within Precise Plan or zoning ordinance standards
- *Height Guideline:* Up to 8 stories for office and lodging; up to 15 stories for residential

Legend

- North Bayshore Mixed-Use
- High-Intensity Office
- Mixed-Use Center
- Mobile Home Residential
- Parks, Schools and City Facilities
- Regional Park

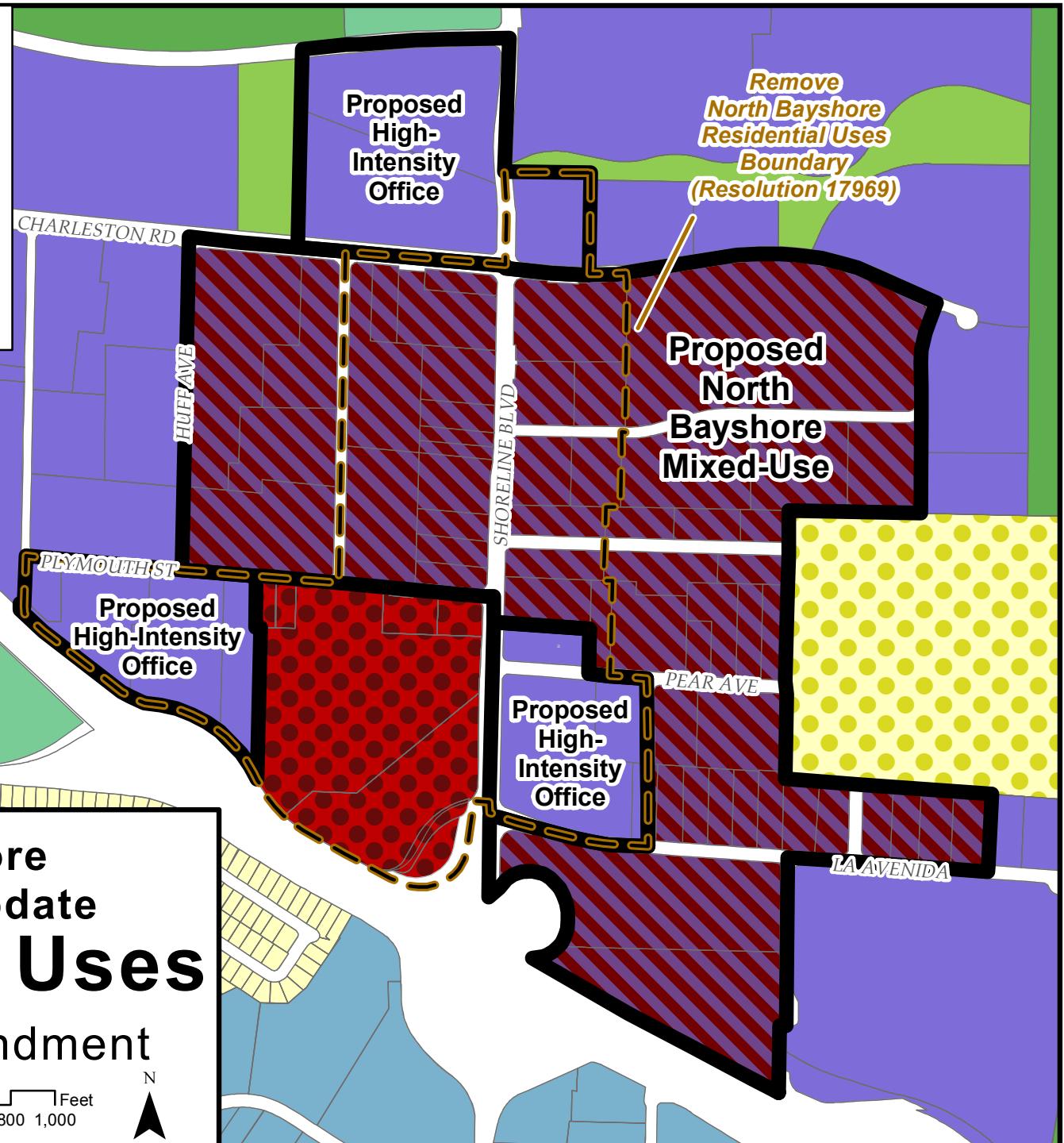


North Bayshore Precise Plan Update Residential Uses

General Plan Amendment

Community Development Department
CITY OF MOUNTAIN VIEW
Mountain View, CA 94031 Santa Clara County
(650) 960-6306

0 200 400 600 800 1,000 Feet



APPENDIX E

Air Quality and Greenhouse Gas Emissions Assessment

*Draft Subsequent
Environmental Impact Report*

**North Bayshore Precise Plan
(Residential Uses)**

**City of Mountain View
March 2017**

**NORTH BAYSHORE PRECISE PLAN
AIR QUALITY AND
GREENHOUSE GAS EMISSIONS ASSESSMENT
MOUNTAIN VIEW, CALIFORNIA**

**January 17, 2017
Revised February 14, 2017**



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INTRODUCTION

This report examines air quality and greenhouse gas (GHG) emissions in the Planning Area and region, includes a summary of applicable air quality and GHG regulations, and analyzes potential air quality and GHG impacts associated with the proposed North Bayshore Precise Plan (NBPP).

SETTING

The planning area is Mountain View, which lies in the northwestern portion of Santa Clara County. The planning area is located in the western portion of the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_x). The main sources of ROG and NO_x , often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, shortness of breath, and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide

Carbon monoxide (CO) is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. While CO transport is limited, it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal.

Nitrogen Dioxide

NO_2 is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2 . Aside from its contribution to ozone formation, NO_2 also contribute to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO_2 decreases lung function and may reduce resistance to infection. On January 22, 2010 the EPA strengthened the health-based NAAQS for NO_2 .

Sulfur Dioxide

Sulfur dioxide (SO_2) is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels in the region. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are larger than 2.5 microns but smaller than 10 microns (PM_{10}). $\text{PM}_{2.5}$ refers to fine suspended particulate matter with an aerodynamic diameter of 2.5 microns or less that is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM_{10} and $\text{PM}_{2.5}$. These small particles can be directly emitted into the atmosphere as by-products of fuel combustion, through abrasion, such as tire or brake lining wear, or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces, and can enter the human body through the lungs.

Lead

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufactures.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the U.S. EPA established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in

December 1995. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Toxic Air Contaminants (TACs)

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated by the EPA and the CARB. Some examples of TACs include: benzene, butadiene, formaldehyde, and hydrogen sulfide. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants.

High volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high volume transit centers, or schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Sensitive Receptors

Some groups of people are more affected by air pollution than others. The State has identified the following people who are most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools.

Health effects of criteria pollutants and their potential sources are described below and summarized in Table 1.

TABLE 1 Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none">Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust.Natural events, such as decomposition of organic matter.	<ul style="list-style-type: none">Reduced tolerance for exercise.Impairment of mental function.Impairment of fetal development.Death at high levels of exposure.Aggravation of some heart diseases (angina).

Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood functions and nerve construction. • Behavioral and hearing problems in children.
Suspended Particulate Matter (PM _{2.5} and PM ₁₀)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardiorespiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.
Toxic Air Contaminants	<ul style="list-style-type: none"> • Cars and trucks, especially diesels. • Industrial sources such as chrome platers. • Neighborhood businesses such as dry cleaners and service stations. • Building materials and product. 	<ul style="list-style-type: none"> • Cancer. • Chronic eye, lung, or skin irritation. • Neurological and reproductive disorders.

Source: CARB, 2008.

Regional Air Quality

The North Bayshore Precise Plan is in the San Francisco Bay Area Air Basin. The Air Basin includes the counties of San Francisco, Santa Clara, San Mateo, Marin, Napa, Contra Costa, and Alameda, along with the southeast portion of Sonoma County and the southwest portion of Solano County.

The North Bayshore Precise Plan is within the jurisdiction of the BAAQMD. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants, and the number of days during which the region exceeds air quality standards, have fallen dramatically. Exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Local Climate and Air Quality

Air quality is a function of both local climate and local sources of air pollution. Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses of the environment. Climate and topography are major influences on air quality.

Climate and Meteorology

During the summer, mostly clear skies result in warm daytime temperatures and cool nights in the Santa Clara Valley. Winter temperatures are mild, except for very cool but generally frost-less mornings. Further inland where the moderating effect of the bay is not as strong, temperature extremes are greater. Wind patterns are influenced by local terrain, with a northwesterly sea breeze typically developing during the daytime. Winds are usually stronger in the spring and summer. Rainfall amounts are modest, ranging from 13 inches in the lowlands to 20 inches in the hills.

Air Pollution Potential

Ozone and fine particle pollution, or PM_{2.5}, are the major regional air pollutants of concern in the San Francisco Bay Area. Ozone is primarily a problem in the summer, and fine particle pollution in the winter. Most of Santa Clara County is well south of the cooler waters of the San Francisco Bay and far from the cooler marine air which usually reaches across San Mateo County in summer. Ozone frequently forms on hot summer days when the prevailing seasonal northerly winds carry ozone precursors southward across the county, causing health standards to be exceeded. Santa Clara County experiences many exceedances of the PM_{2.5} standard each winter. This is due to the high population density, wood smoke, industrial and freeway traffic,

and poor wintertime air circulation caused by extensive hills to the east and west that block wind flow into the region.

Existing Air Pollutant Levels

BAAQMD monitors air pollution at various sites within the Bay Area. The closest official monitoring station to Mountain View is located in Cupertino at 22601 Voss Avenue. That station closed in 2013, so data from San Jose are presented for years 2014 and 2015. Pollutant monitoring results for the years 2010 to 2014 at the Cupertino ambient air quality monitoring station are shown in Table 2.

TABLE 2 Ambient Air Quality at the Cupertino and San Jose Monitoring Stations

Pollutant	Average Time	Measured Air Pollutant Levels				
		Cupertino			San Jose	
		2011	2012	2013	2014	2015
Ozone (O ₃)	1-Hour	0.086 ppm	0.083 ppm	0.091 ppm	0.089 ppm	0.094 ppm
	8-Hour	0.067 ppm	0.067 ppm	0.077 ppm (1 day)	0.066 ppm	0.081 ppm (2 days)
Carbon Monoxide (CO)	8-Hour	1.0 ppm	0.8 ppm	1.3 ppm	1.9 ppm	1.8 ppm
Nitrogen Dioxide (NO ₂)	1-Hour	0.043 ppm	0.045 ppm	0.042 ppm	0.058 ppm	0.049 ppm
	Annual	0.009 ppm	0.008 ppm	0.009 ppm	0.013 ppm	0.013 ppm
Respirable Particulate Matter (PM ₁₀)	24-Hour	28.9µg/m ³	41.5µg/m ³	34 µg/m ³	56µg/m³ (1 day)	58µg/m³ (1 day)
	Annual	14.2µg/m ³	13.5µg/m ³	14.6µg/m ³	19.9 µg/m ³	22.0µg/m³
Fine Particulate Matter (PM _{2.5})	24-Hour	ND	ND	57.7µg/m³ (6 days)	60.4 µg/m³ (2 days)	49.4µg/m³ (2 days)
	Annual	ND	ND	12.4µg/m³	8.4 µg/m ³	10.0 µg/m ³

Source: BAAQMD Air Pollution Summaries (2011-2015) at <http://www.baaqmd.gov/about-air-quality/air-quality-summaries>

Note: ppm = parts per million and µg/m³ = micrograms per cubic meter

Values reported in **bold** exceed ambient air quality standard

ND = No Data available.

Greenhouse Gases

Global temperatures are affected by naturally occurring and anthropogenic-generated (generated by humankind) atmospheric gases, such as water vapor, carbon dioxide, methane, and nitrous oxide. Gases that trap heat in the atmosphere are called greenhouse gases (GHG). Solar radiation enters the earth's atmosphere from space, and a portion of the radiation is absorbed at the surface. The earth emits this radiation back toward space as infrared radiation. Greenhouse gases, which are mostly transparent to incoming solar radiation, are effective in absorbing infrared radiation and redirecting some of this back to the earth's surface. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This is known as the greenhouse effect. The greenhouse effect helps maintain a habitable climate. Emissions of GHGs from human activities, such as electricity production, motor vehicle use, and agriculture, are elevating the concentration of GHGs in the atmosphere, and are reported to have led to a trend of unnatural warming of the earth's natural climate, known as global warming or global climate change. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred because it implies that there are other consequences to the global climate in addition to rising temperatures. Other than water vapor, the primary GHGs contributing to global climate change include the following gases:

- Carbon dioxide (CO₂), primarily a byproduct of fuel combustion;
- Nitrous oxide (N₂O), a byproduct of fuel combustion; also associated with agricultural operations such as the fertilization of crops;
- Methane (CH₄), commonly created by off-gassing from agricultural practices (e.g. livestock), wastewater treatment and landfill operations;
- Chlorofluorocarbons (CFCs) were used as refrigerants, propellants and cleaning solvents, but their production has been mostly prohibited by international treaty;
- Hydrofluorocarbons (HFCs) are now widely used as a substitute for chlorofluorocarbons in refrigeration and cooling; and
- Perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆) emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

These gases vary considerably in terms of Global Warming Potential (GWP), a term developed to compare the propensity of each GHG to trap heat in the atmosphere relative to another GHG. GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time of gas remains in the atmosphere. The GWP of each GHG is measured relative to CO₂. Accordingly, GHG emissions are typically measured and reported in terms of equivalent CO₂ (CO₂e). For instance, SF₆ is 22,800 times more intense in terms of global climate change contribution than CO₂.

An expanding body of scientific research supports the theory that global warming is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally-occurring resources within California could be adversely affected by the global warming trend. Increased precipitation and sea level rise could increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

REGULATORY FRAMEWORK

Pursuant to the federal Clean Air Act (CAA) of 1970, the U.S. Environmental Protection Agency (EPA) established national ambient air quality standards (NAAQS). The NAAQS were established for major pollutants, termed “criteria” pollutants. Criteria pollutants are defined as those pollutants for which the Federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Both the EPA and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants: carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and suspended particulate matter (PM). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These standards are designed to protect the health and welfare of the public with a reasonable margin of safety. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each criteria pollutant.

Federal Air Quality Regulations

At the federal level, the EPA has been charged with implementing national air quality programs. EPA’s air quality mandates are drawn primarily from the Federal Clean Air Act (FCAA), which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required EPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a State Implement Plan (SIP). Federal standards include both primary and secondary standards. Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased

visibility, damage to animals, crops, vegetation, and buildings.¹ The Federal Clean Air Act Amendments of 1990 (FCAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA has responsibility to review all state SIPs to determine conformity with the mandates of the FCAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area which imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in the application of sanctions on transportation funding and stationary air pollution sources in the air basin.

The 1970 FCAA authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The FCAA Amendments of 1990 changed deadlines for attaining NAAQS as well as the remedial actions required of areas of the nation that exceed the standards. Under the FCAA, State and local agencies in areas that exceed the NAAQS are required to develop SIPs to show how they will achieve the NAAQS by specific dates. The FCAA requires that projects receiving federal funds demonstrate conformity to the approved SIP and local air quality attainment plan for the region. Conformity with the SIP requirements would satisfy the FCAA requirements.

State Air Quality Regulations

The CARB is the agency responsible for the coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), adopted in 1988. The CCAA requires that all air districts in the State achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. The CCAA specifies that districts should focus on reducing the emissions from transportation and air-wide emission sources, and provides districts with the authority to regulate indirect sources.

CARB is also responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. CARB is primarily responsible for statewide pollution sources and produces a major part of the SIP. Local air districts provide additional strategies for sources under their jurisdiction. CARB combines this data and submits the completed SIP to the EPA. Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which in many cases are more stringent than the NAAQS), determining and updating area

¹ U.S. Environmental Protection Agency, 2013. Website: www.epa.gov/air/criteria.html. February.

designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

Attainment Status Designations

The CARB is required to designate areas of the State as attainment, nonattainment, or unclassified for all State standards. An “attainment” designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A “nonattainment” designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An “unclassified” designation signifies that data does not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

Table 3 shows the State and Federal standards for criteria pollutants and provides a summary of the attainment status for the San Francisco Bay Area with respect to National and State ambient air quality standards.

TABLE 3 San Francisco Bay Area Attainment Status

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Carbon Monoxide (CO)	8-Hour	9 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	Attainment
	1-Hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Attainment
Nitrogen Dioxide (NO ₂)	Annual Mean	0.030 ppm (57 mg/m ³)	Attainment	0.053 ppm (100 µg/m ³)	Attainment
	1-Hour	0.18 ppm (338 µg/m ³)	Attainment	0.100 ppm	Unclassified
Ozone (O ₃)	8-Hour	0.07 ppm (137 µg/m ³)	Nonattainment	0.070 ppm	Nonattainment
	1-Hour	0.09 ppm (180 µg/m ³)	Nonattainment	Not Applicable	Not Applicable
Suspended Particulate Matter (PM ₁₀)	Annual Mean	20 µg/m ³	Nonattainment	Not Applicable	Not Applicable
	24-Hour	50 µg/m ³	Nonattainment	150 µg/m ³	Unclassified

Suspended Particulate Matter (PM _{2.5})	Annual Mean	12 µg/m ³	Nonattainment	12 µg/m ³	Attainment
	24-Hour	Not Applicable	Not Applicable	35 µg/m ³	Nonattainment
Sulfur Dioxide (SO ₂)	Annual Mean	Not Applicable	Not Applicable	80 µg/m ³ (0.03 ppm)	Attainment
	24-Hour	0.04 ppm (105 µg/m ³)	Attainment	365 µg/m ³ (0.14 ppm)	Attainment
	1-Hour	0.25 ppm (655 µg/m ³)	Attainment	0.075 ppm (196 µg/m ³)	Attainment

Lead (Pb) is not listed in the above table because it has been in attainment since the 1980s.

ppm = parts per million

mg/m³ = milligrams per cubic meter

µg/m³ = micrograms per cubic meter

Source: Bay Area Air Quality Management District, 2016.

California Clean Air Act

In 1988, the CCAA required that all air districts in the State endeavor to achieve and maintain CAAQS for carbon monoxide (CO), ozone (O₃), sulfur dioxide (SO₂) and nitrogen dioxide (NO₂) by the earliest practical date. The CCAA provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

California Air Resources Board Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines.² CARB subsequently developed an Air Quality and Land Use Handbook³ (Handbook) in 2005 that is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. The CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for “sensitive” land uses, such as residences, medical facilities, daycare centers, schools, and playgrounds.

² California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.

³ California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April.

Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the Handbook relative to the Plan Area include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.
- Within 300 feet of gasoline fueling stations.
- Within 300 feet of dry cleaning operations (note that dry cleaning with TACs is being phased out and will be prohibited in 2023).

Bay Area Air Quality Management District (BAAQMD)

The BAAQMD seeks to attain and maintain air quality conditions in the San Francisco Bay Area Air Basin (SFBAAB) through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAQMD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by law.

Clean Air Plan

The BAAQMD is responsible for developing a Clean Air Plan which guides the region's air quality planning efforts to attain the CAAQS. The BAAQMD's 2010 Clean Air Plan is the latest Clean Air Plan which contains district-wide control measures to reduce ozone precursor emissions (i.e., ROG and NO_x), particulate matter and greenhouse gas emissions.

The Bay Area 2010 Clean Air Plan, which was adopted on September 15, 2010 by the BAAQMD's board of directors:

- Updates the Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone;
- Provides a control strategy to reduce ozone, particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan;
- Reviews progress in improving air quality in recent years; and
- Established emission control measures to be adopted or implemented in the 2010 to 2012 timeframe.

BAAQMD CARE Program

The Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area. The program examines TAC emissions from point sources, area sources and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. The BAAQMD has identified six communities as impacted: Concord, Richmond/San Pablo, Western Alameda County, San Jose, Redwood City/East Palo Alto, and Eastern San Francisco.

BAAQMD California Environmental Quality Act (CEQA) Air Quality Guidelines

The BAAQMD *CEQA Air Quality Guidelines*⁴ were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of their *CEQA Guidelines*. In May 2011, the updated BAAQMD *CEQA Air Quality Guidelines* were amended to include a risk and hazards threshold for new receptors and modify procedures for assessing impacts related to risk and hazard impacts.

BAAQMD's adoption of significance thresholds contained in the 2011 CEQA Air Quality Guidelines was called into question by an order issued March 5, 2012, in California Building Industry Association (CBIA) v. BAAQMD (Alameda Superior Court Case No. RGI0548693). The order requires the BAAQMD to set aside its approval of the thresholds until it has conducted environmental review under CEQA. The ruling made in the case concerned the environmental impacts of adopting the thresholds and how the thresholds would indirectly affect land use development patterns. In August 2013, the Appellate Court struck down the lower court's order to set aside the thresholds (Cal. Court of Appeal, First Appellate District, Case Nos. A135335 & A136212). CBIA sought review by the California Supreme Court on three issues, including the

⁴ Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines*. May.

appellate court's decision to uphold the BAAQMD's adoption of the thresholds, and the Court granted review on just one: Under what circumstances, if any, does CEQA require an analysis of how existing environmental conditions will impact future residents or users of a proposed project? In December 2015, the Supreme Court determined that an analysis of the impacts of the environment on a project – known as “CEQA-in-reverse” – is only required under two limited circumstances: (1) when a statute provides an express legislative directive to consider such impacts; and (2) when a proposed project risks exacerbating environmental hazards or conditions that already exist (Cal. Supreme Court Case No. S213478). The Supreme Court reversed the Court of Appeal's decision and remanded the matter back to the appellate court to reconsider the case in light of the Supreme Court's ruling.

Greenhouse Gas Regulatory Framework

This section summarizes key federal, State, and City statutes, regulations, and policies that would apply to the Master Plan Update. Global climate change resulting from GHG emissions is an emerging environmental concern being raised and discussed at the international, national, and statewide level. At each level, agencies are considering strategies to control emissions of gases that contribute to global climate change.

Federal Regulations

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the Kyoto Protocol, which would have required reductions in GHGs, Congress never ratified the protocol. The federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science. At this time, there are no federal regulations or policies pertaining to GHG emissions from proposed plans like the NBPP.

State Regulations

The State of California is concerned about GHG emissions and their effect on global climate change. The State recognizes that “there appears to be a close relationship between the concentration of GHGs in the atmosphere and global temperatures” and that “the evidence for climate change is overwhelming.” The effects of climate change on California, in terms of how it would affect the ecosystem and economy, remain uncertain. The State has many areas of concern regarding climate change with respect to global warming. According to the 2006 Climate Action Team Report, the following climate change effects and conditions can be expected in California over the course of the next century:

- A diminishing Sierra snowpack declining by 70 percent to 90 percent, effecting the state's water supply;

- Increasing temperatures from 8 to 10.4 degrees Fahrenheit ($^{\circ}\text{F}$) under the higher emission scenarios, leading to a 25 to 35 percent increase in the number of days ozone pollution standards are exceeded in most urban areas;
- Coastal erosion along the length of California and seawater intrusion into the Sacramento River Delta from a 4- to 33-inch rise in sea level. This would exacerbate flooding in already vulnerable regions;
- Increased vulnerability of forests due to pest infestation and increased temperatures;
- Increased challenges for the state's important agricultural industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta; and
- Increased electricity demand, particularly in the hot summer months.

Assembly Bill 1575 (1975)

In 1975, the Legislature created the California Energy Commission (CEC). The CEC regulates electricity production that is one of the major sources of GHGs.

Title 24, Part 6 of the California Code of Regulations (1978)

The Energy Efficiency Standards for Residential and Nonresidential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

Assembly Bill 1493 (2002)

Assembly Bill (AB) 1493 required CARB to develop and adopt regulations that reduce GHG emitted by passenger vehicles and light duty trucks.

State of California Executive Order S-3-05 (2005)

The Governor's Executive Order established aggressive emissions reductions goals: by 2010, GHG emissions must be reduced to 2000 levels; by 2020, GHG emissions must be reduced to 1990 levels; and by 2050, GHG emissions must be reduced to 80 percent below 1990 levels.

In June 2005, the Governor of California signed Executive Order S-3-05, which identified Cal/EPA as the lead coordinating State agency for establishing climate change emission reduction targets in California. A "Climate Action Team," a multi-agency group of State agencies, was set up to implement Executive Order S-3-05. Under this order, the State plans to reduce GHG emissions to 80 percent below 1990 levels by 2050. GHG emission reduction

strategies and measures to reduce global warming were identified by the California Climate Action Team in 2006.

Assembly Bill 32 (AB 32), California Global Warming Solutions Act (2006)

AB 32, the Global Warming Solutions Act of 2006, codifies the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons of carbon dioxide equivalent (MMT CO₂e) as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, in light of the economic downturn, to 545 million metric tons of CO₂e. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 million metric tons of CO₂e. Thus, an estimated reduction of 80 million metric tons of CO₂e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

Senate Bill 375, California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles

traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

Executive Order S-13-08 (2008)

This Executive Order directed California agencies to assess and reduce the vulnerability of future construction projects to impacts associated with sea-level rise.

Bay Area Air Quality Management District

BAAQMD is the regional government agency that regulates sources of air pollution within the nine San Francisco Bay Area counties. The BAAQMD regulates GHG emissions through the following plans, programs, and guidelines.

Regional Clean Air Plans

BAAQMD and other air districts prepare clean air plans in accordance with the State and Federal Clean Air Acts. The Bay Area 2010 Clean Air Plan (CAP) is a comprehensive plan to improve Bay Area air quality and protect public health through implementation of a control strategy designed to reduce emissions and ambient concentrations of harmful pollutants. The most recent CAP also includes measures designed to reduce GHG emissions.

BAAQMD Climate Protection Program

The BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the San Francisco Bay Area Air Basin. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy, all of which assist in reducing emissions of GHG and in reducing air pollutants that affect the health of residents. BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts among stakeholders.

BAAQMD CEQA Air Quality Guidelines

The BAAQMD adopted revised CEQA Air Quality Guidelines on June 2, 2010 and then adopted a modified version of the Guidelines in May, 2011. The BAAQMD CEQA Air Quality Guidelines include thresholds of significance for greenhouse gas emissions. Under the latest CEQA Air Quality Guidelines, a local government may prepare a qualified greenhouse gas Reduction Strategy that is consistent with AB 32 goals. If a project is consistent with an adopted qualified greenhouse gas Reduction Strategy, it can be presumed that the project will not have significant GHG emissions under CEQA.⁵ The BAAQMD also developed a quantitative threshold for project- and plan-level analyses based on estimated GHG emissions, as well as per capita metrics.

City of Mountain View GHG Reduction Program

The City of Mountain View has adopted qualified GHG reduction program (GGRP).⁶ This program meets the requirements of a GHG Reduction Strategy under State CEQA Guidelines Section 15183.5. The program includes a goal to improve communitywide emissions efficiency (per-service population – residents and full-time employees) by 15 to 20 percent over 2005 levels by 2020 and by 30 percent over 2005 levels by 2030. The GGRP implements the following goal, policy, and actions from the Mountain View General Plan Mobility Element:

Goal MOB-9: Achievement of state and regional air quality and greenhouse gas emission reduction targets

Policy MOB 9.1 Greenhouse gas emissions: Develop cost-effective strategies for reducing greenhouse gas emissions in coordination with the Greenhouse Gas Reduction Program.

- *Action MOB 9.1.1 Greenhouse Gas Inventory: Maintain and regularly update the City's municipal and community Greenhouse Gas Inventory to track emissions.*
- *Action MPB 9.1.2 Greenhouse Gas Reduction Program: Regularly update the Greenhouse Gas Reduction Program to address transportation emissions reductions.*

⁵ Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines*. May.

⁶ AECOM. 2012. [City of Mountain View Greenhouse Gas Reduction Program](#). August.

PROJECT IMPACTS AND MITIGATION MEASURES

Significance Criteria

Per Appendix G of the CEQA Guidelines and BAAQMD recommendations, air quality and GHG impacts are considered significant if implementation of the NBPP would:

- 1) Conflict with or obstruct implementation of an applicable air quality plan;
- 2) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- 3) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- 4) Expose sensitive receptors to substantial pollutant concentrations;
- 5) Create objectionable odors affecting a substantial number of people;
- 6) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- 7) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The BAAQMD adopted CEQA Guidelines in June 2010, which were revised in May 2011. Methodology and thresholds for criteria air pollutant impacts and community health risk, as set forth in the BAAQMD Guidelines, are utilized in this analysis.

The following screening thresholds and significance criteria would be applicable to the NBPP.

Consistency with Clean Air Planning Efforts

According to the BAAQMD Air Quality Guidelines, proposed plans must show over the planning period of the plan that:

- The plan supports the primary goals of the current air quality plan;
- The plan incorporates current air quality plan control measures as appropriate to the plan area
- The plan does not disrupt or hinder implementation of any air quality plan control measures; and

- The rate of increase in vehicle miles traveled or vehicle trips (either measure may be used) within the plan area is equal to or lower than the rate of increase in population projected for the proposed plan.

Construction and Operation Emissions

The BAAQMD Air Quality Guidelines do not have thresholds related to direct and indirect criteria pollutant emissions resulting from plan implementation. Traffic resulting from the implementation of the plan would cause a significant local air quality impact if emissions of CO cause a projected exceedance of the ambient CO State standard of 9.0 parts per million (ppm) for 8-hour averaging period. This would be considered to cause or contribute substantially to an existing or projected air quality violation.

Exposure of New Residences to Toxic Air Contaminants

Unlike industrial or stationary sources of air pollution, residential development and other development where sensitive receptors would be located do not require air quality permits. Nonetheless, this type of development can expose people to unhealthy conditions. The BAAQMD Air Quality Guidelines Thresholds of Significance for plans with regard to community risk and hazard impacts are:

- Identify special overlay zones around existing and planned sources of TACs and PM (including adopted risk reduction plan areas), and special overlay zones on each side of all freeways and high-volume roadways; and
- The plan must also identify goals, policies, and objectives to minimize potential impacts and create overlay zones around sources of TACs, PM, and hazards.

Odors

Odors are assessed based on the potential of the Plan to result in odor complaints. The BAAQMD Air Quality Guidelines Thresholds of Significance for plans with regard to odor impacts are:

- Identify special overlay zones around existing and planned sources of odors; and
- The plan must identify goals, policies, and objectives to minimize potential impacts and create buffer distances between sources of odors and receptors.

Greenhouse Gas Emissions

The BAAQMD thresholds were developed specifically for the Bay Area after considering the latest Bay Area GHG inventory and the effects of AB 32 scoping plan measures that would reduce regional emissions. BAAQMD intends to achieve GHG reductions from new land use developments to close the gap between projected regional emissions with AB 32 scoping plan measures and the AB 32 targets. The BAAQMD GHG recommendations include a specific plan- and project-level GHG emission efficiency metric of 4.6 MT of CO₂e per service population (future residences and full-time workers) per year. In addition, the City's GGRP established an efficiency metric of 4.5 MT of CO₂e per service population/year for 2030.

Impact: Conflict with or obstruct implementation of an applicable air quality plan?

BAAQMD is the regional agency responsible for overseeing compliance with State and Federal laws, regulations, and programs within the SFBAAB. BAAQMD, with assistance from ABAG and MTC, has prepared and implements specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the *Bay Area 2010 Clean Air Plan*.⁷ The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHG.

The proposed North Bayshore Precise Plan would result in up to an additional 9,850 multi-family residential units between 2015 and 2030. Daily vehicle miles traveled (VMT) for 2015 and 2030 were from the project traffic consultant (total VMT accounting method). Table 4 identifies the VMT and population increases for the NBPP. Using 2015 as a baseline year, VMT attributable to implementation of the NBPP is anticipated to increase 65 percent. The increase in population is estimated to be 2,268 percent. As a result, VMT would not increase at a higher rate than population with implementation of the NBPP and this impact would be considered less than significant.

⁷ Bay Area Air Quality Management District (BAAQMD). 2010. *Bay Area 2010 Clean Air Plan*.

TABLE 4 Summary of Existing and Future Vehicle Miles Traveled and Service Population

Metric/ Variable	Existing	2030 Cumulative with NBPP	Increase with NBPP
Total VMT	1,001,640	1,655,690	65%
Population	760	18,000	2,268%

Consistency with Bay Area Clean Air Plan Control Measures

Consistency of the North Bayshore Precise Plan (NBPP) with Clean Air Plan control measures is demonstrated by assessing whether the proposed Plan implements all of the applicable Clean Air Plan control measures. The 2010 Clean Air Plan includes 55 control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. The control measures are divided into five categories that include:

- 18 measures to reduce stationary and area sources;
- 10 mobile source measures;
- 17 transportation control measures;
- Six land use and local impact measures; and
- Four energy and climate measures.

In developing the control strategy, BAAQMD identified the full range of tools and resources available, both regulatory and non-regulatory, to develop each measure. Implementation of each control measure will rely on some combination of the following:

- Adoption and enforcement of rules to reduce emissions from stationary sources, area sources, and indirect sources.
- Revisions to the BAAQMD's permitting requirements for stationary sources.
- Enforcement of CARB rules to reduce emissions from heavy-duty diesel engines.
- Allocation of grants and other funding by the Air District and/or partner agencies.
- Promotion of best policies and practices that can be implemented by local agencies through guidance documents, model ordinances, and other measures.
- Partnerships with local governments, other public agencies, the business community, non-profits, and other groups.
- Public outreach and education.
- Enhanced air quality monitoring.
- Development of land use guidance and CEQA guidelines, and Air District review and comment on Bay Area projects pursuant to CEQA.

- Leadership and advocacy.

This approach relies upon lead agencies to assist in implementing some of the control measures. A key tool for local agency implementation is the development of land use policies and implementing measures that address new development or redevelopment in local communities.

The BAAQMD, with assistance from ABAG and MTC, has prepared and implemented the Clean Air Plan to meet the applicable laws, regulations, and programs. The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHG.

The Guidelines set forth criteria for determining consistency with the Clean Air Plan. In general a plan is considered consistent if a) the plan supports the primary goals of the Clean Air Plan; b) includes control measures; and c) does not interfere with implementation of the Clean Air Plan measures. The NBPP would be consistent with Clean Air Plan measures intended to reduce automobile use and conserve energy, which are discussed below. Table 5 lists the relevant Clean Air Plan policies to the NBPP and indicates consistency with the policies.

TABLE 5 BAAQMD Control Strategy Measures

BAAQMD Control Strategy Measures	Consistency
Transportation Control Measures	
TCM B-2: Improve Transit Efficiency	<p>Consistent</p> <p>While this is mostly a regionally implemented TCM, the NBPP would improve connectivity to the region and City through investments in non-automobile infrastructure and transportation demand management measures promoting transit use, walking and biking. Improved transportation services would connect to the Mountain View Transit Center and other City and regional destinations.</p>

BAAQMD Control Strategy Measures	Consistency
TCM C-1: Support Voluntary Employer-Based Trip Reduction Program	<p>Consistent</p> <p>The City has an aggressive drive-alone rate 45 percent by 2030 for North Bayshore. To achieve this goal, the Precise Plan would promote the use of transit, carpools, walking and biking in the area. From priority pedestrian and bicycle networks to TDM programs, the NBPP would make it easier, more comfortable, and more efficient for employees and residents to walk, bike, carpool, or use transit. The NBPP acknowledges that businesses should continue to lead the way with innovative vehicle trip reduction strategies. The TMA would oversee coordinating and expanding employer-sponsored shuttles.</p>
TCM C-2: Safe Routes to School and Safe Routes to Transit	<p>Consistent</p> <p>The NBPP would require that developers ensure access to school through support of Safe Routes to Schools programs. Neighborhoods would be close to transit facilities.</p>
TCM C-3: Promote Rideshare Services and Incentives	<p>Consistent</p> <p>The City has an aggressive drive-alone rate 45 percent by 2030 for North Bayshore. To achieve this goal, the Precise Plan would promote the use of transit, carpools, walking and biking in the area. From priority pedestrian and bicycle networks to TDM programs, the NBPP would make it easier, more comfortable, and more efficient for employees and residents to walk, bike, carpool, or use transit. The NBPP acknowledges that businesses should continue to lead the way with innovative vehicle trip reduction strategies.</p>
TCM C-4: Conduct Public Outreach	<p>Consistent</p> <p>The NBPP would include TDM strategies to reduce auto trips and vehicle miles traveled by increasing travel options and providing information to encourage and help individuals modify their travel behavior. The City may implement a congestion pricing system and, if so, community outreach would be required.</p>

BAAQMD Control Strategy Measures	Consistency
TCM C-5: Promote Smart Driving/Speed Moderation	<p>Consistent</p> <p>Under the NBPP, neighborhood streets, access streets, and service streets are designated as “shared” streets and will be designed for both cars and bicycles to share the road at a more moderate speed.</p>
TCM D-1: Improve Bicycle Access and Facilities	<p>Consistent</p> <p>The NBPP would include new complete mixed-use neighborhoods within comfortable walking distance to services and open space. Neighborhoods are also close to bicycle and transit facilities to make it easy for residences to live in North Bayshore without a car.</p>
TCM D-2: Improve Pedestrian Access and Facilities	<p>Consistent</p> <p>The NBPP would include new complete mixed-use neighborhoods within comfortable walking distance to services and open space. Neighborhoods are also close to bicycle and transit facilities to make it easy for residences to live in North Bayshore without a car. North Bayshore’s large blocks would be broken down into a more walkable, finer grained set of blocks with new pedestrian and bicycle connections. These new blocks would make it easier, and more comfortable, efficient, and sustainable for residents, employees, and visitors to move around.</p>
TCM D-3: Support Local Land Use Strategies	<p>Consistent</p> <p>The NBPP area would transition into an innovative, sustainable, and complete mixed-use district that protects and stewards biological habitat and open space. It would include new complete mixed-use neighborhoods within comfortable walking distance to services and open space and sustainable transportation systems.</p>
TCM E-2: Parking Pricing and Management Strategies	<p>Consistent</p> <p>The NBPP would improve connectivity to the region and City through investments in non-automobile infrastructure and transportation demand management measures promoting transit use, walking and biking. The Plan would encourage smaller units to unbundle parking costs from the housing unit costs. Shared parking will also be implemented.</p>

BAAQMD Control Strategy Measures	Consistency
Land Use and Local Impact Control Measures	
LUM 3: Enhanced CEQA Program	<p>Consistent</p> <p>While this TCM addresses BAAQMD actions, the City requires the appropriate air quality evaluation of projects during CEQA review using the BAAQMD CEQA Air Quality Guidelines.</p>
LUM 5: Reduce Risk in Impacted Communities	<p>This issue is addressed in this EIR, in which the impact of existing or new TAC sources upon sensitive receptors is evaluated and mitigation measures to reduce any substantial TAC exposures are identified.</p>
Energy and Climate Measures	
ECM 1: Energy Efficiency	<p>Consistent</p> <p>Environmental sustainability will be implemented by building-, site-, and district-scale improvements. Strategies will enable the City and North Bayshore to proactively address climate change, sea level rise, and water demand reduction strategies, for example. The Plan includes an Environmental Sustainability Framework which builds upon the Environmental Sustainability Action Plan, the Mountain View Green Building Code, and the Greenhouse Gas Reduction Program and new development would incorporate highly-sustainable design features and materials. For example, the Plan includes FAR incentives for buildings to meet LEED Platinum or zero net energy.</p>
ECM 2: Renewable Energy	<p>Consistent</p> <p>Under the NBPP, new construction and renovations should offset a proportion of building energy use with on-site renewable energy. In addition, all construction shall be designed to be solar ready and electric vehicle ready.</p>
ECM 3: Urban Heat Island Mitigation	<p>Consistent</p> <p>Under the NBPP, new construction, additions and alterations should use cool exterior siding, roofing, and paving material with relatively high solar reflectivity and shading to reduce solar heat gain. Parking lots shall implement a combination of strategies to reduce the heat island effect.</p>
ECM 4: Tree-Planting	<p>Consistent</p> <p>The NBPP would include provisions for street tree plantings in 6.4, Streetscape Design.</p>

As indicated in Table 5, the NBPP would include implementing policies and measures that are consistent with the applicable Clean Air Plan control measures. In addition, VMT growth in the Plan Area would not outpace population growth. Therefore, this impact would be considered less than significant.

Impact 2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Implementation of the NBPP would result in short-term emissions from construction activities associated with subsequent development, including site grading, asphalt paving, building construction, and architectural coating. Emissions commonly associated with construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, the dominant source of PM₁₀ and PM_{2.5} emissions, is generated when wheels or blades disturb surface materials. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. The potential health risk impact from construction is addressed in Impact 4.

Demolition and renovation of buildings can also generate PM₁₀ and PM_{2.5} emissions. Off-road construction equipment is often diesel-powered and can be a substantial source of NO_X emissions, in addition to PM₁₀ and PM_{2.5} emissions. Worker commute trips and architectural coatings are dominant sources of ROG emissions. The BAAQMD CEQA Air Quality Guidelines do not identify plan level thresholds that apply to construction. Although construction activities at individual project sites are expected to occur during a relatively short time period, the combination of temporary dust from activities and diesel exhaust from construction equipment poses both a health and nuisance impact to nearby receptors. In addition, NO_X emissions during grading and soil import/export for large projects may exceed the BAAQMD NO_X emission thresholds. Without application of appropriate control measures to reduce construction dust and exhaust, construction period impacts would be considered a potentially significant impact. Implementation of Mitigation Measure AQ-1 would reduce this impact to less than significant.

Mitigation Measure AQ-1: Implement BAAQMD-Recommended Measures to Control Particulate Matter Emissions during Construction. Measures to reduce diesel particulate matter (DPM) and PM₁₀ from construction are recommended to ensure that short-term health impacts to nearby sensitive receptors are avoided.

Dust (PM₁₀) Control Measures:

- Water all active construction areas at least twice daily and more often during windy periods. Active areas adjacent to residences should be kept damp at all times.
- Cover all hauling trucks or maintain at least two feet of freeboard.
- Pave, apply water at least twice daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas.
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas and sweep streets daily (with water sweepers) if visible soil material is deposited onto the adjacent roads.
- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (i.e., previously-graded areas that are inactive for 10 days or more).
- Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles.
- Limit traffic speeds on any unpaved roads to 15 mph.
- Replant vegetation in disturbed areas as quickly as possible.
- Suspend construction activities that cause visible dust plumes to extend beyond the construction site.
- Post a publically visible sign(s) with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Additional measures to reduce exhaust emissions from large construction projects:

- The developer or contractor shall provide a plan for approval by the City or BAAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NO_x reduction and 45 percent particulate reduction compared to the most recent CARB fleet average for the year 2011.
- Clear signage at all construction sites will be posted indicating that diesel equipment standing idle for more than five minutes shall be turned off. This would include trucks waiting to deliver or receive soil, aggregate, or other bulk materials. Rotating drum concrete trucks could keep their engines running continuously as long as they were onsite or adjacent to the construction site.

- The contractor shall install temporary electrical service whenever possible to avoid the need for independently powered equipment (e.g. compressors).
- Properly tune and maintain equipment for low emissions.

Additionally, implementation of the NBPP would result in long-term area and mobile source emissions from operation and use of subsequent development. Implementation of the NBPP could include stationary sources of pollutants that would be required to obtain permits to operate in compliance with BAAQMD rules. These sources include, but are not limited to, gasoline stations, dry cleaners, internal combustion engines, and surface coating operations. The permit process ensures that these sources would be equipped with the required emission controls and that, individually, these sources would result in a less than significant impact.

As discussed above, the BAAQMD Air Quality Guidelines do not have thresholds related to direct and indirect regional criteria pollutant emissions resulting from plan implementation. The BAAQMD CEQA Air Quality Guidelines only require emissions computations for project-level analysis. From a planning standpoint, this impact would be considered less than significant, since the NBPP would not cause significant increases in vehicle trips compared to population growth and would not interfere with Clean Air Plan control measures. However, for informational purposes, estimated operational period emissions in tons per year and pounds per day are summarized in Table 6. These emissions were computed using the same CalEEMod runs and mobile emissions methodology that were used to assess GHG emissions, described under Impact 6. *Attachment 1* contains the CalEEMod output data and *Attachment 2* contains the CARB EMFAC2014 emission factors, VMT-by-speed-bin calculations and overall mobile emissions calculations.

TABLE 6 2030 Operational Air Pollutant Emissions

Scenario	ROG	NOx	PM ₁₀	PM _{2.5}
Proposed NBPP Operational Emissions (tons)	157.30 tons	371.92 tons	86.19 tons	20.96 tons
Existing Operational Emissions (tons)	72.81 tons	246.63 tons	58.17 tons	13.16 tons
Net Operational Emissions (tons)	84.49 tons	125.29 tons	28.02 tons	7.80 tons
Average Daily Net Operational Emissions (pounds) ¹	463.0 lbs.	686.5 lbs.	153.5 lbs.	42.7 lbs.

Notes: ¹ Assumes 365-day operation.

Impact 3: Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Monitoring data from all ambient air quality monitoring stations in the Bay Area indicate that existing carbon monoxide levels are currently below national and California ambient air quality standards. Monitored CO levels have decreased substantially since 1990 as newer vehicles with greatly improved exhaust emission control systems have replaced older vehicles. The Bay Area has been designated as an attainment area for the CO standards. The highest measured levels in Cupertino (the closest monitoring stations to the Planning Area) during the past five years are less than 1.0 ppm for 8-hour averaging periods, compared with State and federal criteria of 9.0 ppm.

Even though current CO levels in the Bay Area are well below ambient air quality standards, and there have been no exceedances of CO standards in the Bay Area since 1991, elevated levels of CO still warrant analysis. CO hotspots (occurrences of localized high CO concentrations) could still occur near busy congested intersections. Recognizing the relatively low CO concentrations experienced in the Bay Area, the BAAQMD's CEQA Air Quality Guidelines state that a project would have a less-than-significant impact if it would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. 2030 NBPP peak hour traffic volumes would be far less. Since intersections affected by the project would have volumes less than the threshold of 44,000 vehicles per hour, the impact of the project related to localized CO concentrations would therefore be less than significant.

Impact 4: Expose project sensitive receptors to substantial pollutant concentrations?

Subsequent land use activities associated with implementation of the NBPP could potentially include short-term construction sources of TACs and long-term operational sources of TACs, including stationary and mobile sources.

Implementation of the NBPP would result in the potential construction of a variety of projects. This construction would result in short-term emissions of DPM, a TAC. Construction would result in the generation of DPM emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other construction activities. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. The calculation of cancer risk associated with exposure to TACs is typically based on a long-term exposure (e.g., 30- or 70-year period). The use of diesel-powered construction equipment, however, would be temporary and episodic and would occur over a relatively large area. Cancer risk and PM_{2.5}

exposure would have to be analyzed through project-level analysis to identify the potential for significant impacts and measures to reduce those impacts to less than significant. Health risks associated with temporary construction would, therefore, be considered potentially significant. Implementation of Mitigation Measure AQ-2 would reduce this impact to less than significant.

Mitigation Measure AQ-2 Implement Appropriate Construction Emissions R Measures.

Construction health risk assessment shall be required on a project-by-project basis, either through screening or refined modeling, to identify impacts and, if necessary, include measures to reduce exposure. Reduction in health risk can be accomplished through, though is not limited to, the following measures:

- Construction equipment selection;
- Use of alternative fuels, engine retrofits, and added exhaust devices;
- Modify construction schedule; and
- Implementation of BAAQMD Basic and/or Additional Construction Mitigation Measures for control of fugitive dust.

Long-Term Operational Sources

According to the BAAQMD CEQA Air Quality Guidelines, for a plan to have a less-than-significant impact with respect to TACs, overlay zones must be established around existing and proposed land uses that would emit these air pollutants. Overlay zones to avoid TAC impacts must be reflected in local plan policies, land use maps, or implementing ordinances.

The BAAQMD CEQA Air Quality Guidelines consider exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or hazard, to be significant. For cancer risk, which is a concern with DPM and other mobile-source TACs, the BAAQMD Risk Management Policy considers an increased risk of contracting cancer that is 10 in one million chances or greater, to be significant risk for a single source. The BAAQMD CEQA Guidelines also consider exposure to annual PM_{2.5} concentrations that exceed 0.3 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) to be significant. Non-cancer risk would be considered significant if the computed Hazard Index is greater than 1.0.⁸ For cumulative sources, the BAAQMD CEQA Guidelines consider 100 in one million excess cancer risk, PM_{2.5} concentrations that exceed 0.8 $\mu\text{g}/\text{m}^3$, and non-cancer Hazard Index greater than 10.0 to be significant.

The North Bayshore Precise Plan Update would permit and facilitate the development of new sensitive receptors, such as new homes, in locations near arterial and collector roadways,

⁸ The Hazard Index is the ratio of the computed receptor exposure level to the level known to cause acute or chronic adverse health impacts, as identified by BAAQMD.

highways, and stationary sources of TAC emissions. Screening levels indicate that sensitive receptors within the Planning Area would be exposed to levels of TACs and/or PM_{2.5} that could cause an unacceptable cancer risk or hazard near highways and stationary sources. Though not necessarily a CEQA issue due to the CBIA v. BAAQMD decision, the potential effect of existing TAC sources on future projects is discussed to comply with General Plan Policy INC 20.7 to “protect the public from substantial pollutant concentrations.”

TAC sources were identified within a 1,000 foot radius from the Planning Area. These sources include: stationary sources permitted by BAAQMD, roadways with more than 10,000 annual average daily traffic (AADT), and highways or freeways. Then, using the screening analysis tools – the stationary source screening analysis tool, the highway screening analysis tool, and the roadway screening analysis tool – potential risk and hazard impacts were assessed.

Stationary Sources

The Planning Area has numerous permitted stationary sources. These sources are located throughout the Plan Area, but mostly in industrial and commercial areas. The impact of these sources can only be addressed on a project-by-project basis, since impacts are generally localized. To assist lead agencies, BAAQMD has provided a database of permitted sources for each County. The database is contained in a Google Earth tool that allows a user to identify stationary sources within 1,000 feet of a receptor. The database can then be accessed through Google Earth to determine conservative screening levels of cancer risk, hazards and PM_{2.5} concentrations. This allows many of the sources to be screened out of any additional analysis. Stationary sources that show the potential for significant community risk impacts after this first level of review are further analyzed by contacting BAAQMD for additional information and applying distance adjustment factors. A refined modeling analysis would be required if there are sources that still have potentially significant impacts after this level of review. A refined analysis would include dispersion modeling of the source using emissions and source information provided by BAAQMD. If the source still has significant community risk impacts following this level of effort, then risk reduction strategies would have to be implemented by the project on a case-by-case basis, including but not limited to, mechanical air filtration systems. Figure 1 illustrates the approximate location of all permitted stationary sources as reported by BAAQMD that could affect existing and future receptors in the Planning Area. The reported screening risk values are assumed to be at a distance of 50 feet.

When siting new sensitive receptors, the BAAQMD Guidelines advise that lead agencies examine existing or future proposed sources of TAC and/or PM_{2.5} emissions that would adversely affect individuals within the planned project. New residences and sensitive receptors could be located near stationary sources of TACs located throughout the Planning Area, such as gasoline dispensing stations, emergency back-up diesel generators, and dry cleaners. Without

proper setbacks or mitigation measures, these sources could result in TAC levels that are considered significant for new sensitive receptors.

Gasoline Stations

The Plan Bay Area DEIR⁹ recommends a screening setback of 300 feet for large gasoline dispensing facilities (3.6 million gallons of throughput a year) and 50 feet for small facilities.

Emergency Back-Up Generators

Electricity generators that are powered by diesel engines are common. They are typically located at facilities where uninterrupted electricity is necessary. Common facilities include fire and police stations, hospital or medical treatment facilities, pump stations, schools, offices, and data centers. Diesel engines powering these generators are regulated by BAAQMD and CARB. CARB has established strict emissions limits and operating restrictions for engines larger than 50 horsepower. BAAQMD has developed criteria (Regulation 2 Rule 5) for approval of projects with new or modified emission sources of TACs. As a result, all new engines have very localized impacts and would not be permitted if they would cause significant cancer risks or hazards. Existing engines are permitted to operate for a maximum of 50 hours per year for maintenance or routine testing.

Moffett Airfield

Located to the east of the Plan Area, Moffet Federal Airfield contains multiple sources of TACs. The Plan Bay Area DEIR does not provide a screening distance for airfield sources and would require project-specific review.

Screening Setback Distances

Specific stationary sources in the Plan Area were identified using BAAQMD's Google Earth *Stationary Source Screening Analysis Tool*, as described above. The BAAQMD data provide the screening risk, hazard and PM_{2.5} concentration levels associated with each source. Table 7 identifies the approximate setback distances from stationary sources that have potentially significant impacts using the screening data provided by BAAQMD and the *Cancer Risk and Hazard Distance Adjustment Multiplier* tool. However, refined analysis of the effects from these sources through emissions and dispersion modeling would likely show lower TAC exposure. It should be noted that certain stationary sources could be removed as part of implementation of the Precise Plan, thus removing their associated community risk.

⁹ Association of Bay Area Governments, Metropolitan Transportation Commission, 2013. *Draft Plan Bay Area Environmental Impact Report*. State Clearinghouse No. 2012062029. April.

Instances where PM_{2.5} screening concentrations exceed the threshold have been marked in Table 7 as “project-specific analysis required.” For example, the City of Mountain View Shoreline Landfill (Source 2740) is reported as having a screening PM_{2.5} concentration of 42.8 µg/m³ at 50 feet, or 1.7 µg/m³ at 918 feet (which is the greatest distance contained in the *Cancer Risk and Hazard Distance Adjustment Multiplier* tool), which would still be potentially significant. Stationary sources that do not have potentially significant impacts at 50 feet or greater were not included in Table 7. Additionally, BAAQMD was contacted through a Stationary Source Inquiry Form (SSIF) to determine which facilities are still operational.¹⁰ In cases where BAAQMD has indicated closed facilities, these were not included in the table. Stationary sources are generally reported in Table 7 from west to east and north to south across the Plan Area. Figure 1 shows the approximate locations of Plan Area or nearby stationary TAC sources with potentially significant risk and their respective screening buffer zones.

TABLE 7 Approximate Screening Setback Distances for Stationary TAC Sources

Facility	Source	Screening Distance in Feet to Cancer Risk Threshold	Screening Distance in Feet to PM _{2.5} Threshold
Space Systems/Loral, Plant 13188 2288 Charleston Road	Standby diesel engine, solvents	525	<50
City of Mountain View Fleet Services, Plant 14211 Amphitheatre Parkway A	Three standby diesel engines	164	<50
City of Mountain View Shoreline Landfill, Plant 2740, 2600 Shoreline Boulevard	Landfill gas collection system, standby diesel engine	656	Project-specific analysis required
American Century Investments, Plant 19229, 1665 Charleston Road	Standby diesel engine	164	<50
Google Inc., Plant 15982, 1600 Amphitheatre Parkway	Multiple standby diesel engines	394	<50
Shoreline Amphitheatre, Plant 2561, One Amphitheatre Parkway	Landfill gas collection system, standby diesel engine	262	426
Layer42 Net, Inc., Plant 20089, 1555 Plymouth Street	Two standby diesel engines	230	<50
City of Mountain View Fleet Services, Plant 14205, 2100 Crittenden Lane	Standby diesel engine	164	<50
Google, Inc., Plant 15982 (formerly Alexa Pharmaceuticals, Plant 18747),	Multiple standby diesel engines	230	<50

¹⁰ Correspondence between Alison Kirk, BAAQMD and Josh Carman, Illingworth and Rodkin, December 22, 2016.

Facility	Source	Screening Distance in Feet to Cancer Risk Threshold	Screening Distance in Feet to PM _{2.5} Threshold
2023 Stierlin Court			
City of Mountain View Fleet Services, Plant 14212, End of Charleston Road	Two standby diesel engines	197	<50
Santa Clara Valley Transportation Authority, Plant 13038, 1235 L'Avenida	Standby diesel engine, paint applications	131	<50

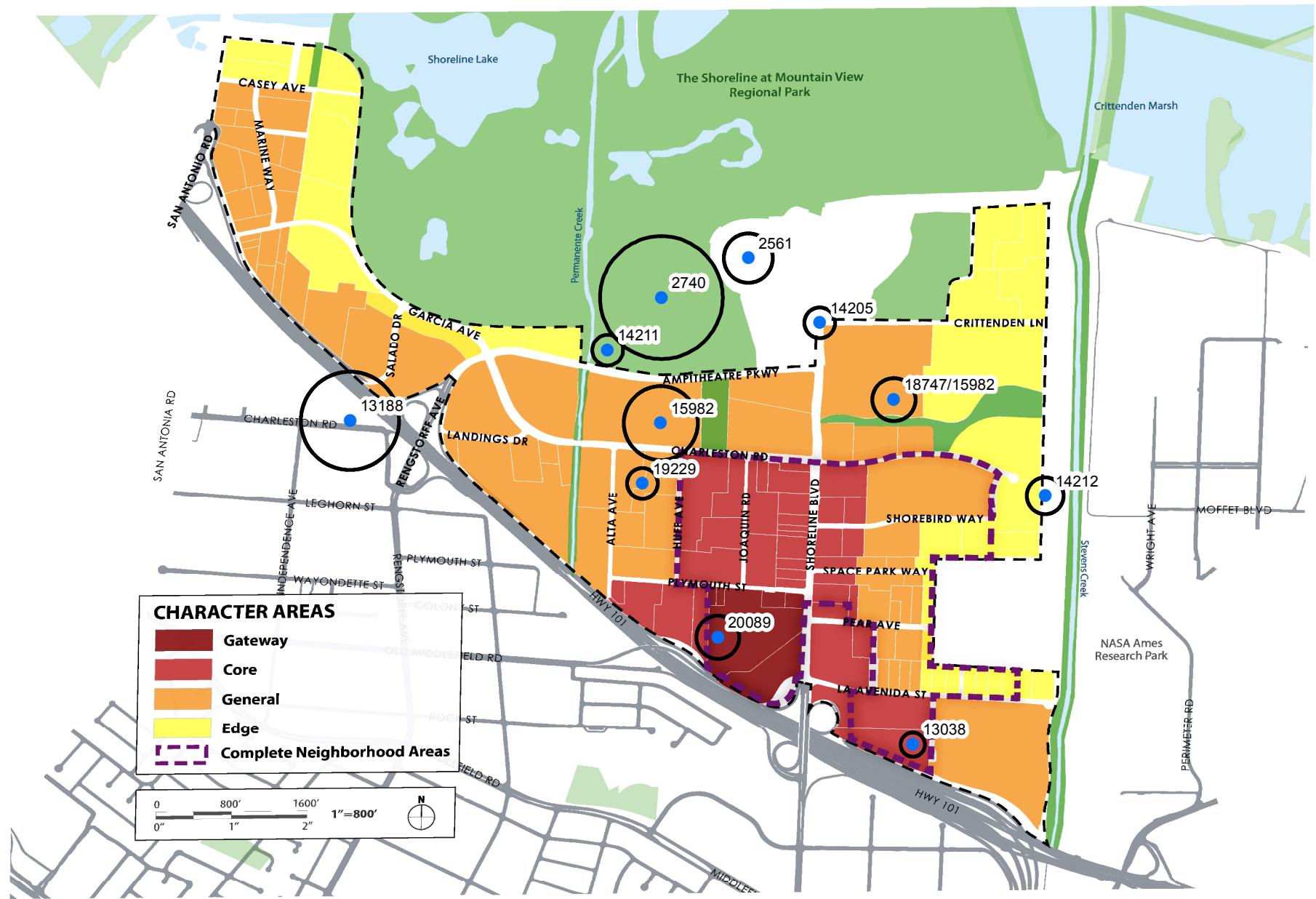
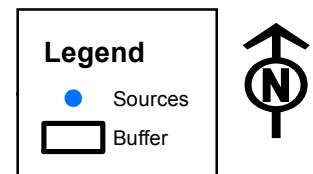


Figure 1. Approximate Location of Plan Area or Nearby Stationary Sources with Potentially Significant Risk



Surface Streets

Traffic on high volume roadways (such as San Antonio Road, Amphitheatre Parkway, N. Shoreline Boulevard, and Charleston Road) is a source of TAC emissions that may adversely affect sensitive receptors in close proximity to the roadway. For roadways, BAAQMD has provided the *Roadway Screening Analysis Calculator* to determine if roadways with traffic volumes of over 10,000 vehicles per day may have a significant effect. Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates and (2) adjustment of cancer risk to reflect new OEHHA guidance (see *Attachment I*).

The calculator uses EMFAC2011 emission rates for the year 2014. Overall, emission rates will decrease by the time the project is constructed and occupied. In addition, a new version of the emissions factor model, EMFAC2014 is available. This version predicts lower emission rates. An adjustment factor of 0.5 was developed by comparing emission rates of total organic gases (TOG) for running exhaust and running losses developed using EMFAC2011 for year 2014 and those from EMFAC2014 for the year 2018. Operations after the year 2018 would result in lower risk values.

The predicted cancer risk was then adjusted using a factor of 1.3744 to account for new OEHHA guidance. This factor was provided by BAAQMD for use with their CEQA screening tools that are used to predict cancer risk.¹¹ Table 8 identifies the approximate screening setback distance to the threshold, using the roadway calculator along with cumulative plus NBPP traffic data (assuming that average daily traffic – ADT – is approximately ten times p.m. peak hour volumes) and roadway direction.

TABLE 8 Approximate Screening Setback Distances for Surface Street TAC Sources

Source	Distance in Feet to Cancer Risk Threshold	Distance in Feet to PM _{2.5} Threshold
San Antonio Road (east of)	35	35
Charleston Road (north of)	10	10
Charleston Road (south of)	15	15
Amphitheatre Parkway (south of)	55	65
N. Shoreline Boulevard (east of)	125	125
N. Shoreline Boulevard (west of)	65	45

¹¹ Correspondence with Alison Kirk, BAAQMD, November 23, 2015.

US Highway 101

US Highway is adjacent to the southern boundary of the Plan Area. The primary source of TAC emissions is from diesel trucks that emit DPM. Additional TAC emissions come from gasoline fueled vehicles which emit organic TAC compounds. PM_{2.5}, which is also of concern, is emitted from vehicle exhaust, tire and brake wear, and from re-suspended roadway dust. A review of the traffic information reported by Caltrans for 2015 indicates that in the vicinity of the project area, US Highway 101 has 227,000 ADT. About 4.5 percent of these trips are made by trucks.

To assess potential health impacts in the Plan Area from traffic on US Highway 101, a refined analysis was conducted to evaluate potential cancer risks and PM_{2.5} concentrations from traffic. The refined analysis involved developing traffic emissions for the traffic volume and mix of vehicle types on US Highway 101. Then using these emissions as input to an atmospheric dispersion model for roadways, TAC and PM_{2.5} concentrations were calculated throughout the Plan Area. Based on the modeled concentrations, potential exposure to TACs was calculated and associated cancer risks were computed.

Vehicle emissions were calculated using emission factors for traffic on US Highway 101 using CARB's EMFAC2014 model. Default EMFAC2014 vehicle model year distributions for Santa Clara County were used in calculating emissions for 2030. Average daily traffic volumes and truck percentages were based on Caltrans data for US Highway 101 for 2013.¹² Traffic volumes were assumed to increase 1 percent per year. Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,¹³ which were then applied to the average daily traffic volumes to obtain estimated hourly traffic volumes and emissions for US Highway 101. The modeling was conducted conservatively assuming emissions for the year 2030. While traffic may increase in the future, vehicle emission rates would continue to decrease at a greater rate than the traffic increase.

For all hours of the day, other than during peak a.m. and p.m. periods, an average speed of 65 mph was assumed for all vehicles other than heavy duty trucks which were assumed to travel at a speed of 60 mph. Based on traffic data from the Santa Clara Valley Transportation Authority's 2014 Monitoring and Conformance Report, traffic speeds during the peak a.m. and p.m. periods were identified.¹⁴ For two hours during the peak a.m. and p.m. periods, average travel speeds of 25 mph and 45 mph were used for north-bound and south-bound traffic, respectively.

¹² Caltrans, 2016. *2015 Annual Average Daily Truck Traffic on the California State Highway System*. Available: <http://www.dot.ca.gov/trafficops/census/>

¹³ The Burden output from EMFAC2007, CARB's previous version of the EMFAC model, was used for this since the current web-based version of EMFAC2014 does not include Burden type output with hour by hour traffic volume information.

¹⁴ Santa Clara Valley Transportation Authority. *Santa Clara County Annual Monitoring and Conformance Report 2015*.

Dispersion modeling of DPM, PM_{2.5}, and organic TAC emissions was conducted using the CAL3QHCR model, which is recommended by the BAAQMD for this type of analysis.¹⁵ North- and south-bound traffic on US Highway 101 in the vicinity of the Plan Area was evaluated with the model. A five-year data set of hourly meteorological data (1968 - 1972) from Moffett Field, formatted for use with the CAL3QHCR model by the BAAQMD, was used in the modeling. Other inputs to the model included road geometry, hourly traffic volumes, and emission factors. TAC and PM_{2.5} concentrations were calculated in the Plan Area using a grid of receptors throughout the Plan Area. A receptor height of 1.5 meters (about 5 feet) was used for all receptors to represent the breathing heights of potential residents in the Plan Area.

Increased cancer risks were calculated using the modeled maximum annual DPM and TOG concentrations, and BAAQMD recommended risk assessment methods.¹⁶ These methods evaluate cancer risk due to a 30 year exposure period and incorporate age sensitivity factors methods for infant (third trimester to two years of age) and children (two years of age to 16 years). The increased cancer risks in the Plan Area from traffic on US Highway 101 were calculated to be less than the BAAQMD significance threshold of an increased cancer risk of more than 10 in one million. The maximum infant cancer risk in the Plan Area from US Highway 101 was 3.7 in one million.

In addition to evaluating the cancer risks from TACs, potential PM_{2.5} impacts from vehicle traffic were evaluated. Annual average PM_{2.5} concentrations were computed at each receptor location. To evaluate potential non-cancer health effects due to PM_{2.5}, the BAAQMD adopted a significance threshold of an annual average PM_{2.5} concentration greater than 0.3 µg/m³. Figure 2 shows the Plan Area and contours lines of maximum annual PM_{2.5} concentration. The contour lines where the PM_{2.5} concentrations are at the BAAQMD significant impact level of 0.3 µg/m³ or higher are highlighted in the figure. For distances within about 650 feet from US Highway 101, potentially significant PM_{2.5} concentrations would occur.

Summary

The NBPP would allow growth of new residential land uses that would be sensitive receptors and new non-residential land uses that are a potential for new emissions sources. Typically, these new sources would be evaluated through the BAAQMD permit process or the CEQA process to identify and mitigate any significant exposures. However, some sources that would not undergo such a review, such as truck loading docks or truck parking areas, may have the potential to cause significant increases in TAC exposure. This impact would be potentially significant. Implementation of Mitigation Measure AQ-3 would reduce this impact to a level of less than significant.

¹⁵ BAAQMD, 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May.

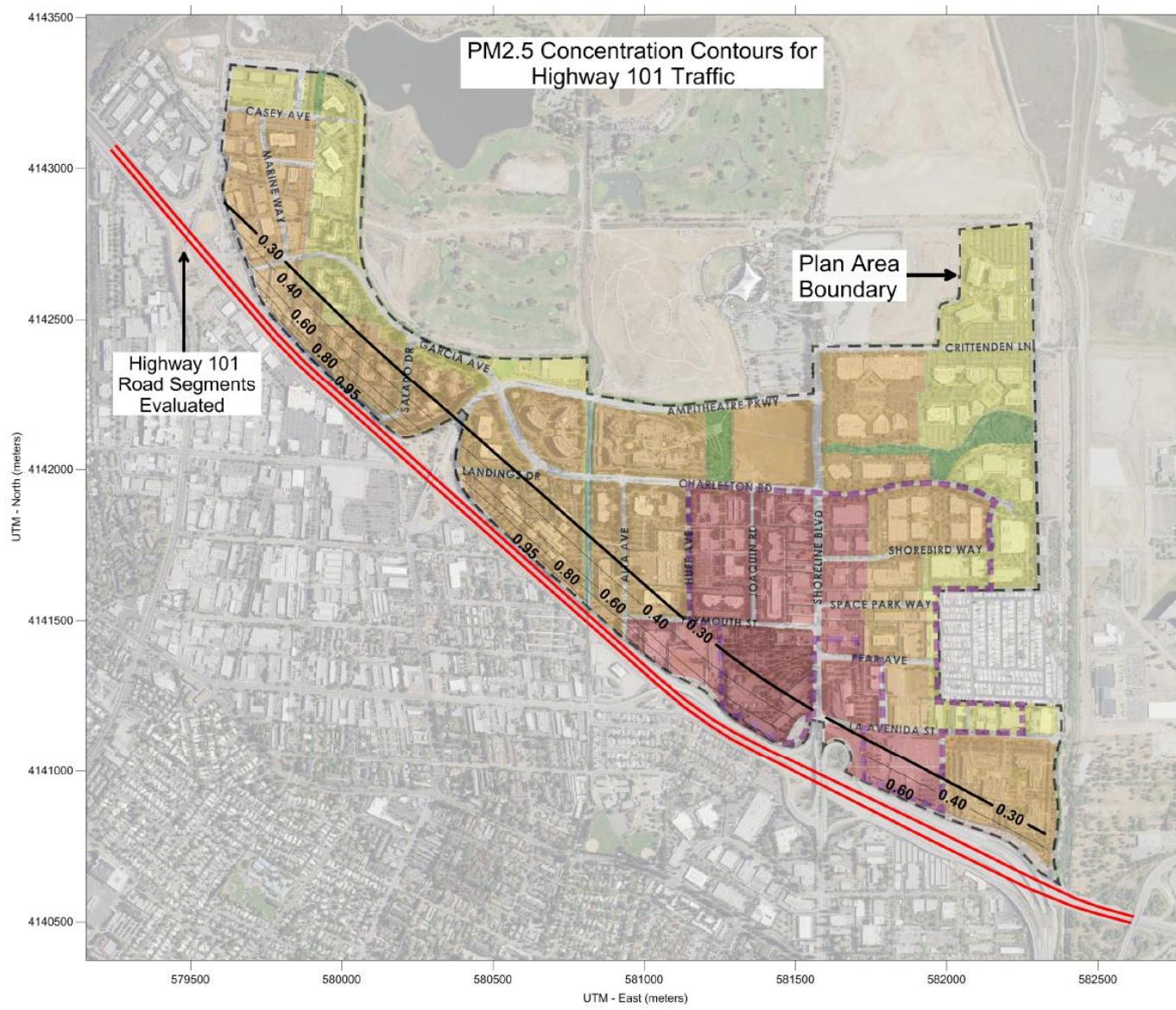
¹⁶ BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. January.

Mitigation Measure AQ-3 The following measures shall be utilized in site planning and building designs to reduce TAC and PM_{2.5} exposure where new receptors are located within the setback distances identified above:

- Future development under the NBPP that includes sensitive receptors (such as schools, hospitals, daycare centers, or retirement homes) located within the setback distances from US Highway 101, local roadways, and stationary sources shall require site-specific analysis to quantify the level of TAC and PM_{2.5} exposure. This analysis shall be conducted following procedures outlined by BAAQMD. If the site-specific analysis reveals significant exposures, such as cancer risk greater than 10 in one million acute or chronic hazards with a Hazard Index greater than 1.0, or annual PM_{2.5} exposures greater than 0.3 µg/m³, or a significant cumulative health risk in terms of excess cancer risk greater than 100 in one million, acute or chronic hazards with a Hazard Index greater than 10.0, or annual PM_{2.5} exposures greater than 0.8 µg/m³, additional measures such as those detailed below shall be employed to reduce the risk to below the threshold. If this is not possible, the sensitive receptors shall be relocated.
- Future developments that would include TAC sources would be evaluated through the CEQA process or BAAQMD permit process to ensure that they do not cause a significant health risk in terms of excess cancer risk greater than 10 in one million, acute or chronic hazards with a Hazard Index greater than 1.0, or annual PM_{2.5} exposures greater than 0.3 µg/m³, or a significant cumulative health risk in terms of excess cancer risk greater than 100 in one million, acute or chronic hazards with a Hazard Index greater than 10.0, or annual PM_{2.5} exposures greater than 0.8 µg/m³.
- For significant cancer risk exposure, as defined by BAAQMD, indoor air filtration systems shall be installed to effectively reduce particulate levels to a less-than-significant level. Project sponsors shall submit performance specifications and design details to demonstrate that lifetime residential exposures would result in less-than-significant cancer risks (less than 10 in one million chances or 100 in one million for cumulative sources), Hazard Index or PM_{2.5} concentration.
- Air filtration systems installed shall be rated MERV-13 or higher and a maintenance plan for the air filtration system shall be implemented.
- Trees and/or vegetation shall be planted between sensitive receptors and pollution sources, if feasible. Trees that are best suited to trapping particulate matter shall be planted, including the following: Pine (*Pinus nigra* var. *maritime*), Cypress (*X Cupressocyparis leylandii*), Hybrid poplar (*Populus deltoids* X *trichocarpa*), and Redwoods (*Sequoia sempervirens*).
- Sites shall be designed to locate sensitive receptors as far as possible from any freeways, roadways, refineries, diesel generators, distribution centers, and rail lines.

- Operable windows, balconies, and building air intakes shall be located as far away from these sources as feasible. If near a distribution center, residents shall not be located immediately adjacent to a loading dock or where trucks concentrate to deliver goods.

Figure 2. Increased PM2.5 Concentrations from US Highway 101 Traffic



5: Create objectionable odors affecting a substantial number of people?

Subsequent land use activities associated with implementation of the NBPP could allow for the development of uses that have the potential to produce odorous emissions either during the construction or operation of future development. Additionally, subsequent land use activities may allow for the construction of sensitive land uses (i.e., residential development, schools, parks, offices, etc.) near existing or future sources of odorous emissions. Future construction activities could result in odorous emissions from diesel exhaust associated with construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, exposure of sensitive receptors to these emissions would be limited.

Significant sources of offending odors are typically identified based on complaint histories received and compiled by BAAQMD. It is difficult to identify sources of odors without requesting information by specific facility from BAAQMD. Typical large sources of odors that result in complaints are wastewater treatment facilities, landfills including composting operations, food processing facilities, and chemical plants. Other sources, such as restaurants, paint or body shops, and coffee roasters typically result in localized sources of odors. Table 9 identifies screening buffers included in the BAAQMD CEQA Air Quality Guidelines that could apply to the Plan Area.

TABLE 9 Odor Screening Distances for the NBPP

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	1 mile
Painting/Coating Operations	1 mile
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Green Waste and Recycling Operations	1 mile

According to the BAAQMD CEQA Guidelines, an odor source with five or more confirmed complaints per year averaged over three years is considered to have a significant impact. Future construction activities in the Precise Plan area could result in odorous emissions from diesel exhaust associated with construction equipment. Because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, exposure of sensitive receptors to these emissions would be limited.

Subsequent land use activities associated with implementation of the Precise Plan could allow for the development of uses that have the potential to produce odorous emissions either during the construction or operation of future development. Additionally, subsequent land use activities may allow for the construction of sensitive land uses (i.e., residential development, schools, parks, offices, etc.) near existing or future sources of odorous emissions. However, significant sources of odors are not proposed as part of the Precise Plan. Further, the City would implement General Plan Policy INC 20.8 as part of the development review process to ensure that residents are protected from odors that might be associated with implementation of the Precise Plan.

Impact 6: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The BAAQMD CEQA Air Quality Guidelines contain methodology and thresholds of significance for evaluating GHG emissions from land use type projects. As discussed above, the City of Mountain View has adopted qualified GHG reduction program (GGRP). This program meets the requirements of a GHG Reduction Strategy under State CEQA Guidelines Section 15183.5. The program includes a goal to improve communitywide emissions efficiency (per-service population – residents and full-time employees) by 30 percent over 2005 levels by 2030. The City intends to achieve GHG reductions from new land use developments to close the gap between projected regional emissions with AB 32 scoping plan measures and the AB 32 targets. The City suggests applying a 2030 GHG efficiency threshold of 4.5 MT per year per service population (S.P.). Projects with emissions above the threshold would be considered to have a cumulatively significant impact.

GHG emissions were computed for the full build-out traffic scenario, with operational emissions in 2030 using the California Emissions Estimator Model Version 2016.3.1 (CalEEMod) and EMFAC2014. NBPP land use types and size were input to CalEEMod. CalEEMod predicts emissions of GHG in the form of equivalent carbon dioxide emissions or CO₂e. Since daily trip generation rates by land use type were not available, mobile emissions were calculated using the VMT-by-speed-bin data and the CARB EMFAC2014 emissions factor model.

Construction Period Emissions

The BAAQMD does not have an adopted Threshold of Significance for construction-related GHG emissions. BAAQMD encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable, including, but not limited to: using alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment for at least 15 percent of the fleet, using local building materials of at least 10 percent, and recycling or reusing at least 50 percent of construction waste or demolition materials. The NBPP would require that all new construction, additions, and alterations recycle or salvage 65 percent of nonhazardous construction and demolition debris generated at the site.

Operational Period Emissions

The CalEEMod model was used to predict GHG emissions associated with operation of fully developed sites under the NBPP aside from mobile emissions. Daily trip generation rates were not available by each specific land use proposed under the Plan, so the VMT-by-speed bin data and the CARB EMFAC2014 emissions factor model was used to estimate vehicle emissions associated with operation of the NBPP. Adjustments to the modeling are described below. CalEEMod output worksheets are provided in *Attachment 1*.

Year of Analysis

Three analysis years were used for modeling: an existing 2015 run and two 2030 runs. Of the 2030 runs, one was the NBPP 2030 scenario and the other was the proposed (smaller unit residential) NBPP 2030.

Land Use Descriptions

The following land uses types and sizes were input to CalEEMod:

Existing 2015

- 1 dwelling unit entered as “Single Family Housing;”
- 362 dwelling units entered as “Apartments Low Rise;”
- 68,964 square feet (sf) “Strip Mall”/commercial/retail;
- 412,910 sf entered as “General Office Building;”
- 6,374,650 sf entered as “Research & Development;”
- 100 seats entered as “Place of Worship;”
- 249,521 sf entered as “General Light Industry;” and
- 90,730 sf entered as “Free Standing Discount Store.”

NBPP 2030

- 1 dwelling unit entered as “Single Family Housing;”
- 362 dwelling units entered as “Apartments Low Rise;”
- 132,481 square feet (sf) “Strip Mall”/commercial/retail;
- 4,844,563 sf entered as “General Office Building;”
- 4,724,329 sf entered as “Research & Development;”
- 100 seats entered as “Place of Worship;”
- 221,897 sf entered as “General Light Industry;”
- 400 rooms entered as “Motel;” and
- 39,932 sf entered as “Free Standing Discount Store.”

Proposed NBPP 2030

- 1 dwelling unit entered as “Single Family Housing;”
- 10,212 dwelling units entered as “Apartments Low Rise;”
- 192,931 square feet (sf) “Strip Mall”/commercial/retail;
- 5,875,378 sf entered as “General Office Building;”
- 3,834,661 sf entered as “Research & Development;”
- 100 seats entered as “Place of Worship;”
- 137,671 sf entered as “General Light Industry;”
- 400 rooms entered as “Motel;” and
- 24,308 sf entered as “Free Standing Discount Store.”

Mobile Emissions

Since daily trip generation rates by land use type were not available, mobile emissions were calculated using daily vehicle miles traveled (VMT) that were provided in the traffic studies. For each project scenario, the daily VMT was provided, broken down by 5-mph increments or speedbins. These data were combined with vehicle emissions factors for the corresponding speeds using the CARB EMFAC2014 emissions factor model. In addition, the total number of traffic trips were used to estimate additional emissions from vehicle startup conditions. Dust entrainment from vehicles was also computed using methods developed by CARB and US EPA that included silt loading factors specific to Santa Clara County. The VMT estimates were assumed to represent weekday conditions. The CalEEMod modeling defaults for the various land use types were used to develop emission for Saturday and Sunday traffic. The VMT estiamtes for the proposed NBPP include the proposed TDM.

Electricity Generation

Default rates for energy consumption were assumed in the model. CalEEMod has a default rate of 641.3 pounds of CO₂ per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. The Existing 2015 run PG&E rate was updated to be the most recent rate reported in the California Climate Registry that was for 2013, which is 429.6 pounds of CO₂ per megawatt of electricity produced.¹⁷ For the 2030 runs, emissions rates associated with electricity consumption were adjusted to account for PG&E's projected 2020 CO₂ intensity rate in place of 2030, since 2020 is the latest year published to date. This 2020 rate is based, in part, on the requirement of a renewable energy portfolio standard of 33 percent by the year 2020. The derived 2020 rate for PG&E was estimated at 289.84 pounds of CO₂ per megawatt of electricity delivered and is based on the California Public Utilities Commission (CPUC) GHG Calculator.¹⁸ Default model assumptions for GHG emissions associated with area sources, solid waste generation and water/wastewater use were applied. It should be noted that an agreement was made to sell Mountain View Shoreline Landfill gas produced by the MVSL between the City and Alza Corporation (transferred to Google Inc.) dated September 29, 2004. Google agreed to purchase gas from the City to fuel an electric power generating plant to serve certain buildings owned or leased by Google. The expiration date is fifteen years after the commencement date (2006), but no later than January 1, 2021, with two options to extend the expiration date for five-year periods each. However, for the purposes of this analysis, it is conservatively assumed that electricity generation would come from PG&E.

Service Population Rate

The service population rate for this NBPP is the annual GHG emissions expressed in metric tons divided by the estimated number of new residents and employees. The estimated 2030 service population for the proposed NBPP is 56,910. For the NBPP 2030 without project, the estimated service population is 38,650. For existing conditions, the estimated service population is 25,600.

GHG Operational Emissions

Table 10 presents the results of the CalEEMod model analysis in terms of annual metric tons of equivalent CO₂e emissions (MT of CO₂e/yr) and service population values. The CalEEMod modeling data are provided in *Attachment 1*.

¹⁷ See Climate Registry most current version of default emissions factors: <http://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol>. Accessed: October 30, 2015

¹⁸ California Public Utilities Commission's GHG Calculator version 3c, October 7, 2010. Available on-line at: http://ethree.com/public_projects/cpuc2.php. Accessed: June 18, 2015.

As shown in Table 10, 2030 full build-out operation of the NBPP would have annual service population emissions of 5.4 MT of CO₂e/yr/S.P., which would exceed the City GGRP threshold of 4.5 MT of CO₂e/year/S.P. This impact is, therefore, considered potentially significant. There are no additional feasible and reasonable measures beyond those already included in the plan for transportation and energy efficiency, and this impact would be considered *significant and unavoidable*.

TABLE 10 2030 NBPP GHG Emissions (MT of CO₂e)

Source Category	Existing 2015	2030 NBPP	Proposed 2030 NBPP
Area	29	29	812
Energy Consumption	23,098	31,934	44,549
Mobile	151,247	205,034	250,537
Solid Waste Generation	1,362	3,388	6,060
Water Usage	8,041	7,078	8,091
Total	183,777	247,463	310,049
Efficiency Metric	7.2¹	6.4²	5.4³
City GGRP 2030 Threshold			4.5 MT CO ₂ e/year/S.P.

Notes: ¹Based on an existing service population of 25,600, ²Based on a NBPP 2030 without project service population of 38,650,

³Based on a total proposed 2030 NBPP service population of 56,910.

GGRP = Greenhouse Gas Reduction Program

S.P. = service population

Attachment 1: CalEEMod Input and Output Worksheets

North Bayshore Precise Plan, Existing - Santa Clara County, Annual

North Bayshore Precise Plan, Existing
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	412.91	1000sqft	9.48	412,910.00	1027
Research & Development	6,374.65	1000sqft	14.63	6,374,650.00	22194
Place of Worship	100.00	Seat	0.12	5,050.51	10
General Light Industry	249.52	1000sqft	5.73	249,521.00	299
Motel	0.00	Room	0.00	0.00	0
Apartments Mid Rise	362.00	Dwelling Unit	9.53	362,000.00	760
Single Family Housing	1.00	Dwelling Unit	0.32	1,800.00	2
Free-Standing Discount Store	90.73	1000sqft	2.08	90,730.00	0
Strip Mall	68.96	1000sqft	1.58	68,964.00	227

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2015
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429.6	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised CO2 Emission Instensity

Land Use - Assuming the church to have a capacity of 100 seats

Construction Phase - No Construction Emission Modelled

Off-road Equipment -

Off-road Equipment - only operational emission modeled

Trips and VMT -

Demolition -

Vehicle Trips -

Woodstoves - default used, since unknown how many residential units could have woodstoves or fireplaces

Energy Use - default values used

Table Name	Column Name	Default Value	New Value
tblLandUse	BuildingSpaceSquareFees	249,520.00	249,521.00
tblLandUse	BuildingSpaceSquareFees	68,960.00	68,964.00
tblLandUse	LandUseSquareFeet	249,520.00	249,521.00
tblLandUse	LandUseSquareFeet	68,960.00	68,964.00
tblLandUse	LotAcreage	146.34	14.63
tblLandUse	Population	0.00	1,027.00
tblLandUse	Population	0.00	22,194.00
tblLandUse	Population	0.00	10.00
tblLandUse	Population	0.00	299.00
tblLandUse	Population	1,035.00	760.00
tblLandUse	Population	3.00	2.00
tblLandUse	Population	0.00	227.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	429.6
tblProjectCharacteristics	OperationalYear	2018	2015

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr												MT/yr						
	Area	34.4948	0.0524	3.9739	2.4500e-003		0.1806	0.1806		0.1806	0.1806	16.6306	11.3431	27.9737	0.0317	1.0900e-003	29.0914		
Energy	1.0070	9.1429	7.6028	0.0549		0.6958	0.6958		0.6958	0.6958	0.0000	22,962.5481	22,962.5481	1.0683	0.3642	23,097.7960			
Mobile	25.4621	94.8778	303.7404	0.6296	48.3143	1.0883	49.4025	12.9420	1.0306	13.9725	0.0000	57,261.7555	57,261.7555	2.8567	0.0000	57,333.1716			
Waste						0.0000	0.0000		0.0000	0.0000	549.6610	0.0000	549.6610	32.4840	0.0000	1,361.7618			
Water						0.0000	0.0000		0.0000	0.0000	1,047.2880	3,526.6607	4,573.9487	107.8046	2.5891	8,040.6251			
Total	60.9639	104.0730	315.3171	0.6870	48.3143	1.9646	50.2789	12.9420	1.9070	14.8489	1,613.5795	83,762.3074	85,375.8869	144.2453	2.9545	89,862.4459			

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Area	34.4948	0.0524	3.9739	2.4500e-003		0.1806	0.1806		0.1806	0.1806	16.6306	11.3431	27.9737	0.0317	1.0900e-003	29.0914	
Energy	1.0070	9.1429	7.6028	0.0549		0.6958	0.6958		0.6958	0.6958	0.0000	22,962.5481	22,962.5481	1.0683	0.3642	23,097.7960	
Mobile	25.4621	94.8778	303.7404	0.6296	48.3143	1.0883	49.4025	12.9420	1.0306	13.9725	0.0000	57,261.7555	57,261.7555	2.8567	0.0000	57,333.1716	
Waste						0.0000	0.0000		0.0000	0.0000	549.6610	0.0000	549.6610	32.4840	0.0000	1,361.7618	
Water						0.0000	0.0000		0.0000	0.0000	1,047.2880	3,526.6607	4,573.9487	107.8046	2.5891	8,040.6251	
Total	60.9639	104.0730	315.3171	0.6870	48.3143	1.9646	50.2789	12.9420	1.9070	14.8489	1,613.5795	83,762.3074	85,375.8869	144.2453	2.9545	89,862.4459	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Mitigated	25.4621	94.8778	303.7404	0.6296	48.3143	1.0883	49.4025	12.9420	1.0306	13.9725	0.0000	57,261.75	57,261.755	2.8567	0.0000	57,333.17	
Unmitigated	25.4621	94.8778	303.7404	0.6296	48.3143	1.0883	49.4025	12.9420	1.0306	13.9725	0.0000	57,261.75	57,261.755	2.8567	0.0000	57,333.17	

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT
Apartments Mid Rise	2,407.30	2,313.18	2121.32	5,434,506		5,434,506	
Free-Standing Discount Store	5,193.39	6,448.18	5113.54	8,359,569		8,359,569	
General Light Industry	1,739.15	329.37	169.67	3,834,908		3,834,908	
General Office Building	4,554.40	1,015.76	433.56	8,268,989		8,268,989	
Motel	0.00	0.00	0.00				
Place of Worship	61.00	90.00	185.00	155,000		155,000	
Research & Development	51,698.41	12,111.84	7075.86	99,419,165		99,419,165	
Single Family Housing	9.52	9.91	8.62	21,819		21,819	
Strip Mall	3,056.31	2,899.08	1408.85	4,309,775		4,309,775	
Total	68,719.48	25,217.31	16,516.43	129,803,731		129,803,731	

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Free-Standing Discount Store	9.50	7.30	7.30	12.20	68.80	19.00	47.5	35.5	17
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Motel	9.50	7.30	7.30	19.00	62.00	19.00	58	38	4
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.581066	0.044264	0.192756	0.115658	0.019411	0.004878	0.012376	0.018919	0.001909	0.001745	0.005487	0.000584	0.000947
Research & Development	0.581066	0.044264	0.192756	0.115658	0.019411	0.004878	0.012376	0.018919	0.001909	0.001745	0.005487	0.000584	0.000947
Place of Worship	0.581066	0.044264	0.192756	0.115658	0.019411	0.004878	0.012376	0.018919	0.001909	0.001745	0.005487	0.000584	0.000947
General Light Industry	0.581066	0.044264	0.192756	0.115658	0.019411	0.004878	0.012376	0.018919	0.001909	0.001745	0.005487	0.000584	0.000947
Motel	0.581066	0.044264	0.192756	0.115658	0.019411	0.004878	0.012376	0.018919	0.001909	0.001745	0.005487	0.000584	0.000947
Apartments Mid Rise	0.581066	0.044264	0.192756	0.115658	0.019411	0.004878	0.012376	0.018919	0.001909	0.001745	0.005487	0.000584	0.000947
Single Family Housing	0.581066	0.044264	0.192756	0.115658	0.019411	0.004878	0.012376	0.018919	0.001909	0.001745	0.005487	0.000584	0.000947
Free-Standing Discount Store	0.581066	0.044264	0.192756	0.115658	0.019411	0.004878	0.012376	0.018919	0.001909	0.001745	0.005487	0.000584	0.000947
Strip Mall	0.581066	0.044264	0.192756	0.115658	0.019411	0.004878	0.012376	0.018919	0.001909	0.001745	0.005487	0.000584	0.000947

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr											MT/yr				
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	12,996.47	12,996.473	0.8773	0.1815	13,072.49
												36	6			82

Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	0.0000	12,996.47	12,996.473	0.8773	0.1815	13,072.49
NaturalGas Mitigated	1.0070	9.1429	7.6028	0.0549			0.6958	0.6958		0.6958	0.6958	0.0000	9,966.074	9,966.0745	0.1910	0.1827	10,025.29
NaturalGas Unmitigated	1.0070	9.1429	7.6028	0.0549			0.6958	0.6958		0.6958	0.6958	0.0000	9,966.074	9,966.0745	0.1910	0.1827	10,025.29
													5				79

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	4.007e+006	0.0216	0.1846	0.0786	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.8290	213.8290	4.1000e-003	3.9200e-003	215.0996
Free-Standing Discount Store	215937	1.1600e-003	0.0106	8.8900e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.5232	11.5232	2.2000e-004	2.1000e-004	11.5917
General Light Industry	6.60732e+006	0.0356	0.3239	0.2721	1.9400e-003		0.0246	0.0246		0.0246	0.0246	0.0000	352.5916	352.5916	6.7600e-003	6.4600e-003	354.6868
General Office Building	6.79237e+006	0.0366	0.3330	0.2797	2.0000e-003		0.0253	0.0253		0.0253	0.0253	0.0000	362.4667	362.4667	6.9500e-003	6.6500e-003	364.6207
Motel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	133738	7.2000e-004	6.5600e-003	5.5100e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1367	7.1367	1.4000e-004	1.3000e-004	7.1792
Research & Development	1.68801e+008	0.9102	8.2746	6.9506	0.0497		0.6289	0.6289		0.6289	0.6289	0.0000	9,007.8499	9,007.8499	0.1727	0.1651	9,061.3790
Single Family Housing	35952.6	1.9000e-004	1.6600e-003	7.0000e-004	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.9186	1.9186	4.0000e-005	4.0000e-005	1.9300
Strip Mall	164134	8.9000e-004	8.0500e-003	6.7600e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	8.7588	8.7588	1.7000e-004	1.6000e-004	8.8109
Total		1.0070	9.1429	7.6028	0.0549		0.6958	0.6958		0.6958	0.6958	0.0000	9,966.0745	9,966.0745	0.1910	0.1827	10,025.2979
													5				

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr											MT/yr					
Apartments Mid Rise	4.007e+006	0.0216	0.1846	0.0786	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.8290	213.8290	4.1000e-003	3.9200e-003	215.0996	
Free-Standing Discount Store	215937	1.1600e-003	0.0106	8.8900e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.5232	11.5232	2.2000e-004	2.1000e-004	11.5917	
General Light Industry	6.60732e+006	0.0356	0.3239	0.2721	1.9400e-003		0.0246	0.0246		0.0246	0.0246	0.0000	352.5916	352.5916	6.7600e-003	6.4600e-003	354.6868	
General Office Building	6.79237e+006	0.0366	0.3330	0.2797	2.0000e-003		0.0253	0.0253		0.0253	0.0253	0.0000	362.4667	362.4667	6.9500e-003	6.6500e-003	364.6207	
Motel	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Place of Worship	133738	7.2000e-004	6.5600e-003	5.5100e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1367	7.1367	1.4000e-004	1.3000e-004	7.1792	
Research & Development	1.68801e+008	0.9102	8.2746	6.9506	0.0497		0.6289	0.6289		0.6289	0.6289	0.0000	9,007.8499	9,007.8499	0.1727	0.1651	9,061.3790	
Single Family Housing	35952.6	1.9000e-004	1.6600e-003	7.0000e-004	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.9186	1.9186	4.0000e-005	4.0000e-005	1.9300	
Strip Mall	164134	8.9000e-004	8.0500e-003	6.7600e-003	5.0000e-005		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	8.7588	8.7588	1.7000e-004	1.6000e-004	8.8109	
Total		1.0070	9.1429	7.6028	0.0549		0.6958	0.6958		0.6958	0.6958	0.0000	9,966.0745	9,966.0745	0.1910	0.1827	10,025.2979	

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.59677e+006	311.1521	0.0210	4.3500e-003	312.9722
Free-Standing Discount Store	993493	193.5954	0.0131	2.7000e-003	194.7279
General Light Industry	2.10097e+006	409.4013	0.0276	5.7200e-003	411.7961
General Office Building	7.52322e+006	1,465.9994	0.0990	0.0205	1,474.5749

Motel	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	42525.3	8.2866	5.6000e-004	1.2000e-004	8.3351
Research & Development	5.36746e+007	10,459.1996	0.7060	0.1461	10,520.3820
Single Family Housing	8658.17	1.6872	1.1000e-004	2.0000e-005	1.6970
Strip Mall	755156	147.1521	9.9300e-003	2.0600e-003	148.0129
Total		12,996.4736	0.8773	0.1815	13,072.4982

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.59677e+006	311.1521	0.0210	4.3500e-003	312.9722
Free-Standing Discount Store	993493	193.5954	0.0131	2.7000e-003	194.7279
General Light Industry	2.10097e+006	409.4013	0.0276	5.7200e-003	411.7961
General Office Building	7.52322e+006	1,465.9994	0.0990	0.0205	1,474.5749
Motel	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	42525.3	8.2866	5.6000e-004	1.2000e-004	8.3351
Research & Development	5.36746e+007	10,459.1996	0.7060	0.1461	10,520.3820
Single Family Housing	8658.17	1.6872	1.1000e-004	2.0000e-005	1.6970
Strip Mall	755156	147.1521	9.9300e-003	2.0600e-003	148.0129
Total		12,996.4736	0.8773	0.1815	13,072.4982

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Mitigated	34.4948	0.0524	3.9739	2.4500e-003		0.1806	0.1806		0.1806	0.1806	16.6306	11.3431	27.9737	0.0317	1.0900e-003	29.0914	
Unmitigated	34.4948	0.0524	3.9739	2.4500e-003		0.1806	0.1806		0.1806	0.1806	16.6306	11.3431	27.9737	0.0317	1.0900e-003	29.0914	

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
SubCategory	tons/yr											MT/yr					
Architectural Coating	4.0114					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Consumer Products	29.5476					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Hearth	0.8411	0.0194	1.1587	2.3100e-003		0.1657	0.1657		0.1657	0.1657	16.6306	6.8100	23.4406	0.0268	1.0900e-003	24.4344	
Landscaping	0.0947	0.0330	2.8152	1.5000e-004		0.0150	0.0150		0.0150	0.0150	0.0000	4.5331	4.5331	4.9600e-003	0.0000	4.6570	
Total	34.4948	0.0524	3.9739	2.4600e-003		0.1806	0.1806		0.1806	0.1806	16.6306	11.3431	27.9737	0.0317	1.0900e-003	29.0914	

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
SubCategory	tons/yr										MT/yr						
Architectural Coating	4.0114						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Consumer Products	29.5476						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Hearth	0.8411	0.0194	1.1587	2.3100e-003		0.1657	0.1657		0.1657	0.1657	16.6306	6.8100	23.4406	0.0268	1.0900e-003	24.4344	
Landscaping	0.0947	0.0330	2.8152	1.5000e-004		0.0150	0.0150		0.0150	0.0150	0.0000	4.5331	4.5331	4.9600e-003	0.0000	4.6570	
Total	34.4948	0.0524	3.9739	2.4600e-003		0.1806	0.1806		0.1806	0.1806	16.6306	11.3431	27.9737	0.0317	1.0900e-003	29.0914	

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4,573.9487	107.8046	2.5891	8,040.6251
Unmitigated	4,573.9487	107.8046	2.5891	8,040.6251

7.2 Water by Land Use

Unmitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	23.5858 / 14.8693	42.4928	0.7709	0.0186	67.3189
Free-Standing Discount Store	6.7206 / 4.11908	12.0277	0.2197	5.3100e- 003	19.1012
General Light Industry	57.7015 / 0	79.1468	1.8843	0.0453	139.7377
General Office Building	73.388 / 44.9798	131.3405	2.3986	0.0580	208.5830
Motel	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.158025 / 0.247167	0.3853	5.1700e- 003	1.3000e- 004	0.5523
Research & Development	3134.38 / 0	4,299.2964	102.3568	2.4578	7,590.628 0
Single Family Housing	0.065154 / 0.0410754	0.1174	2.1300e- 003	5.0000e- 005	0.1860
Strip Mall	5.10804 / 3.13073	9.1417	0.1670	4.0400e- 003	14.5180
Total		4,573.9487	107.8046	2.5892	8,040.625 1

Mitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	23.5858 / 14.8693	42.4928	0.7709	0.0186	67.3189
Free-Standing Discount Store	6.7206 / 4.11908	12.0277	0.2197	5.3100e- 003	19.1012
General Light Industry	57.7015 / 0	79.1468	1.8843	0.0453	139.7377

General Office Building	73.388 / 44.9798	131.3405	2.3986	0.0580	208.5830
Motel	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.158025 / 0.247167	0.3853	5.1700e-003	1.3000e-004	0.5523
Research & Development	3134.38 / 0	4,299.2964	102.3568	2.4578	7,590.6280
Single Family Housing	0.065154 / 0.0410754	0.1174	2.1300e-003	5.0000e-005	0.1860
Strip Mall	5.10804 / 3.13073	9.1417	0.1670	4.0400e-003	14.5180
Total		4,573.9487	107.8046	2.5892	8,040.6251

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
MT/yr				
Mitigated	549.6610	32.4840	0.0000	1,361.7618
Unmitigated	549.6610	32.4840	0.0000	1,361.7618

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

Land Use	tons	MT/yr			
Apartments Mid Rise	166.52	33.8021	1.9976	0.0000	83.7432
Free-Standing Discount Store	390.2	79.2071	4.6810	0.0000	196.2322
General Light Industry	309.4	62.8054	3.7117	0.0000	155.5977
General Office Building	384.01	77.9506	4.6068	0.0000	193.1192
Motel	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	900	182.6919	10.7968	0.0000	452.6114
Research & Development	484.43	98.3349	5.8114	0.0000	243.6206
Single Family Housing	0.84	0.1705	0.0101	0.0000	0.4224
Strip Mall	72.41	14.6986	0.8687	0.0000	36.4151
Total		549.6610	32.4840	0.0000	1,361.7618

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	166.52	33.8021	1.9976	0.0000	83.7432
Free-Standing Discount Store	390.2	79.2071	4.6810	0.0000	196.2322
General Light Industry	309.4	62.8054	3.7117	0.0000	155.5977
General Office Building	384.01	77.9506	4.6068	0.0000	193.1192
Motel	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	900	182.6919	10.7968	0.0000	452.6114

Research & Development	484.43	98.3349	5.8114	0.0000	243.6206
Single Family Housing	0.84	0.1705	0.0101	0.0000	0.4224
Strip Mall	72.41	14.6986	0.8687	0.0000	36.4151
Total		549.6610	32.4840	0.0000	1,361.761 8

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

North Bayshore Precise Plan, Operational - Santa Clara County, Annual

North Bayshore Precise Plan, Operational

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	4,844.56	1000sqft	111.22	4,844,563.00	19378
Research & Development	4,724.33	1000sqft	108.46	4,724,329.00	16535
Place of Worship	100.00	Seat	0.12	5,050.51	10
General Light Industry	221.90	1000sqft	5.09	221,897.00	266
Motel	400.00	Room	18.00	784,080.00	160
Apartments Mid Rise	362.00	Dwelling Unit	9.53	362,000.00	760
Single Family Housing	1.00	Dwelling Unit	0.32	1,800.00	2
Free-Standing Discount Store	39.93	1000sqft	0.92	39,932.00	120
Strip Mall	132.48	1000sqft	3.04	132,481.00	371

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	289.84	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised CO2 Emission Intensity

Land Use - From Land Use and Sizes Worksheet

Construction Phase - No construction emission modeled

Off-road Equipment -

Off-road Equipment - Only operational emission modeled

Woodstoves - Default used, since unknown how many residential units could have woodstoves or fireplaces

Energy Use - default values used

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	150	0
tblConstructionPhase	NumDays	180.00	1.00
tblLandUse	BuildingSpaceSquareFeet	4,844,560.00	4,844,563.00
tblLandUse	BuildingSpaceSquareFeet	4,724,330.00	4,724,329.00
tblLandUse	BuildingSpaceSquareFeet	221,900.00	221,897.00
tblLandUse	BuildingSpaceSquareFeet	39,930.00	39,932.00
tblLandUse	BuildingSpaceSquareFeet	132,480.00	132,481.00
tblLandUse	LandUseSquareFeet	4,844,560.00	4,844,563.00
tblLandUse	LandUseSquareFeet	4,724,330.00	4,724,329.00
tblLandUse	LandUseSquareFeet	221,900.00	221,897.00
tblLandUse	LandUseSquareFeet	39,930.00	39,932.00
tblLandUse	LandUseSquareFeet	132,480.00	132,481.00
tblLandUse	Population	0.00	19,378.00
tblLandUse	Population	0.00	16,535.00
tblLandUse	Population	0.00	10.00
tblLandUse	Population	0.00	266.00
tblLandUse	Population	0.00	160.00
tblLandUse	Population	1,035.00	760.00
tblLandUse	Population	3.00	2.00
tblLandUse	Population	0.00	120.00
tblLandUse	Population	0.00	371.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	289.84
tblProjectCharacteristics	OperationalYear	2018	2030

tblTripsAndVMT	WorkerTripNumber	0.00	18.00
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2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	50.2071	0.0512	3.9426	2.4600e-003		0.1810	0.1810		0.1810	0.1810	16.6306	11.3997	28.0303	0.0314	1.0900e-003	29.1410
Energy	1.3489	12.2506	10.2133	0.0736		0.9320	0.9320		0.9320	0.9320	0.0000	31,695.93	31,695.937	2.0915	0.6245	31,934.33
Mobile	12.5744	54.3410	145.6040	0.6289	72.8485	0.4211	73.2695	19.4954	0.3914	19.8869	0.0000	57,871.09	57,871.092	1.6606	0.0000	57,912.60
Waste						0.0000	0.0000		0.0000	0.0000	1,367.511	0.0000	1,367.5116	80.8176	0.0000	3,387.952
Water						0.0000	0.0000		0.0000	0.0000	1,041.229	2,588.682	3,629.9118	107.2033	2.5788	7,078.467
Total	64.1304	66.6429	159.7599	0.7050	72.8485	1.5340	74.3824	19.4954	1.5043	20.9998	2,425.371	92,167.11	94,592.483	191.8045	3.2044	100,342.5
											6	20	5			052

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	50.2071	0.0512	3.9426	2.4600e-003		0.1810	0.1810		0.1810	0.1810	16.6306	11.3997	28.0303	0.0314	1.0900e-003	29.1410
Energy	1.3489	12.2506	10.2133	0.0736		0.9320	0.9320		0.9320	0.9320	0.0000	31,695.93	31,695.937	2.0915	0.6245	31,934.33
Mobile	12.5744	54.3410	145.6040	0.6289	72.8485	0.4211	73.2695	19.4954	0.3914	19.8869	0.0000	57,871.09	57,871.092	1.6606	0.0000	57,912.60
											27	7				78

Waste							0.0000	0.0000		0.0000	0.0000	1,367.5116	0.0000	1,367.5116	80.8176	0.0000	3,387.9520
Water							0.0000	0.0000		0.0000	0.0000	1,041.2295	2,588.6823	3,629.9118	107.2033	2.5788	7,078.4679
Total	64.1304	66.6429	159.7599	0.7050	72.8485	1.5340	74.3824	19.4954	1.5043	20.9998	2,425.3716	92,167.1120	94,592.4835	191.8045	3.2044	100,342.5052	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	12.5744	54.3410	145.6040	0.6289	72.8485	0.4211	73.2695	19.4954	0.3914	19.8869	0.0000	57,871.0927	57,871.0927	1.6606	0.0000	57,912.6078
Unmitigated	12.5744	54.3410	145.6040	0.6289	72.8485	0.4211	73.2695	19.4954	0.3914	19.8869	0.0000	57,871.0927	57,871.0927	1.6606	0.0000	57,912.6078

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT
Apartments Mid Rise	2,407.30	2,313.18	2121.32	5,434,506		5,434,506	
Free-Standing Discount Store	2,285.59	2,837.83	2250.45	3,679,021		3,679,021	
General Light Industry	1,546.64	292.91	150.89	3,410,412		3,410,412	
General Office Building	53,435.50	11,917.62	5086.79	97,017,782		97,017,782	
Motel	2,252.00	2,252.00	2252.00	4,273,775		4,273,775	
Place of Worship	61.00	90.00	185.00	155,000		155,000	

Research & Development	38,314.32	8,976.23	5244.01	73,680,742	73,680,742
Single Family Housing	9.52	9.91	8.62	21,819	21,819
Strip Mall	5,871.51	5,569.46	2706.57	8,279,568	8,279,568
Total	106,183.38	34,259.13	20,005.65	195,952,625	195,952,625

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Free-Standing Discount Store	9.50	7.30	7.30	12.20	68.80	19.00	47.5	35.5	17
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Motel	9.50	7.30	7.30	19.00	62.00	19.00	58	38	4
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Research & Development	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Place of Worship	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
General Light Industry	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Motel	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Apartments Mid Rise	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Single Family Housing	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Free-Standing Discount Store	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Strip Mall	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	18,346.68	18,346.683	1.8357	0.3798	18,505.75	
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	18,346.68	18,346.683	1.8357	0.3798	18,505.75	
NaturalGas Mitigated	1.3489	12.2506	10.2133	0.0736		0.9320	0.9320		0.9320	0.9320	0.0000	13,349.25	13,349.253	0.2559	0.2447	13,428.58	
NaturalGas Unmitigated	1.3489	12.2506	10.2133	0.0736		0.9320	0.9320		0.9320	0.9320	0.0000	13,349.25	13,349.253	0.2559	0.2447	13,428.58	
												38	8			14	

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	4.007e+006	0.0216	0.1846	0.0786	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.8290	213.8290	4.1000e-003	3.9200e-003	215.0996
Free-Standing Discount Store	95038.2	5.1000e-004	4.6600e-003	3.9100e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	5.0716	5.0716	1.0000e-004	9.0000e-005	5.1017
General Light Industry	5.87583e+006	0.0317	0.2880	0.2420	1.7300e-003		0.0219	0.0219		0.0219	0.0219	0.0000	313.5568	313.5568	6.0100e-003	5.7500e-003	315.4201
General Office Building	7.96931e+007	0.4297	3.9065	3.2815	0.0234		0.2969	0.2969		0.2969	0.2969	0.0000	4,252.7252	4,252.725	0.0815	0.0780	4,277.9971
Motel	3.48994e+007	0.1882	1.7108	1.4370	0.0103		0.1300	0.1300		0.1300	0.1300	0.0000	1,862.3649	1,862.364	0.0357	0.0341	1,873.4320
Place of Worship	133738	7.2000e-004	6.5600e-003	5.5100e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1367	7.1367	1.4000e-004	1.3000e-004	7.1792
Research & Development	1.251e+008	0.6746	6.1324	5.1512	0.0368		0.4661	0.4661		0.4661	0.4661	0.0000	6,675.8248	6,675.824	0.1280	0.1224	6,715.4959
												8					

Single Family Housing	35952.6	1.9000e-004	1.6600e-003	7.0000e-004	1.0000e-005			1.3000e-004	1.3000e-004			1.3000e-004	1.3000e-004	0.0000	1.9186	1.9186	4.0000e-005	4.0000e-005	1.9300
Strip Mall	315305	1.7000e-003	0.0155	0.0130	9.0000e-005			1.1700e-003	1.1700e-003			1.1700e-003	1.1700e-003	0.0000	16.8259	16.8259	3.2000e-004	3.1000e-004	16.9259
Total		1.3489	12.2506	10.2133	0.0736			0.9320	0.9320			0.9320	0.9320	0.0000	13,349.2535	13,349.2535	0.2559	0.2447	13,428.5814

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
Land Use	kBTU/yr	tons/yr												MT/yr					
Apartments Mid Rise	4.007e+006	0.0216	0.1846	0.0786	1.1800e-003			0.0149	0.0149			0.0149	0.0149	0.0000	213.8290	213.8290	4.1000e-003	3.9200e-003	215.0996
Free-Standing Discount Store	95038.2	5.1000e-004	4.6600e-003	3.9100e-003	3.0000e-005			3.5000e-004	3.5000e-004			3.5000e-004	3.5000e-004	0.0000	5.0716	5.0716	1.0000e-004	9.0000e-005	5.1017
General Light Industry	5.87583e+006	0.0317	0.2880	0.2420	1.7300e-003			0.0219	0.0219			0.0219	0.0219	0.0000	313.5568	313.5568	6.0100e-003	5.7500e-003	315.4201
General Office Building	7.96931e+007	0.4297	3.9065	3.2815	0.0234			0.2969	0.2969			0.2969	0.2969	0.0000	4,252.7252	4,252.7252	0.0815	0.0780	4,277.9971
Motel	3.48994e+007	0.1882	1.7108	1.4370	0.0103			0.1300	0.1300			0.1300	0.1300	0.0000	1,862.3649	1,862.3649	0.0357	0.0341	1,873.4320
Place of Worship	133738	7.2000e-004	6.5600e-003	5.5100e-003	4.0000e-005			5.0000e-004	5.0000e-004			5.0000e-004	5.0000e-004	0.0000	7.1367	7.1367	1.4000e-004	1.3000e-004	7.1792
Research & Development	1.251e+008	0.6746	6.1324	5.1512	0.0368			0.4661	0.4661			0.4661	0.4661	0.0000	6,675.8248	6,675.8248	0.1280	0.1224	6,715.4959
Single Family Housing	35952.6	1.9000e-004	1.6600e-003	7.0000e-004	1.0000e-005			1.3000e-004	1.3000e-004			1.3000e-004	1.3000e-004	0.0000	1.9186	1.9186	4.0000e-005	4.0000e-005	1.9300
Strip Mall	315305	1.7000e-003	0.0155	0.0130	9.0000e-005			1.1700e-003	1.1700e-003			1.1700e-003	1.1700e-003	0.0000	16.8259	16.8259	3.2000e-004	3.1000e-004	16.9259
Total		1.3489	12.2506	10.2133	0.0736			0.9320	0.9320			0.9320	0.9320	0.0000	13,349.2535	13,349.2535	0.2559	0.2447	13,428.5814

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.59677e+006	209.9262	0.0210	4.3500e-003	211.7464
Free-Standing Discount Store	437255	57.4856	5.7500e-003	1.1900e-003	57.9840
General Light Industry	1.86837e+006	245.6335	0.0246	5.0800e-003	247.7632
General Office Building	8.82679e+007	11,604.516	1.1611	0.2402	11,705.13
Motel	6.10014e+006	801.9809	0.0802	0.0166	808.9343
Place of Worship	42525.3	5.5908	5.6000e-004	1.2000e-004	5.6392
Research & Development	3.97789e+007	5,229.6941	0.5233	0.1083	5,275.0371
Single Family Housing	8658.17	1.1383	1.1000e-004	2.0000e-005	1.1482
Strip Mall	1.45067e+006	190.7180	0.0191	3.9500e-003	192.3716
Total		18,346.683	1.8357	0.3798	18,505.75
		8			50

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.59677e+006	209.9262	0.0210	4.3500e-003	211.7464
Free-Standing Discount Store	437255	57.4856	5.7500e-003	1.1900e-003	57.9840
General Light Industry	1.86837e+006	245.6335	0.0246	5.0800e-003	247.7632
General Office Building	8.82679e+007	11,604.516	1.1611	0.2402	11,705.13

Motel	6.10014e+006	801.9809	0.0802	0.0166	808.9343
Place of Worship	42525.3	5.5908	5.6000e-004	1.2000e-004	5.6392
Research & Development	3.97789e+007	5,229.6941	0.5233	0.1083	5,275.0371
Single Family Housing	8658.17	1.1383	1.1000e-004	2.0000e-005	1.1482
Strip Mall	1.45067e+006	190.7180	0.0191	3.9500e-003	192.3716
Total		18,346.6838	1.8357	0.3798	18,505.7550

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Mitigated	50.2071	0.0512	3.9426	2.4600e-003		0.1810	0.1810		0.1810	0.1810	16.6306	11.3997	28.0303	0.0314	1.0900e-003	29.1410	
Unmitigated	50.2071	0.0512	3.9426	2.4600e-003		0.1810	0.1810		0.1810	0.1810	16.6306	11.3997	28.0303	0.0314	1.0900e-003	29.1410	

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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SubCategory	tons/yr												MT/yr						
Architectural Coating	5.8628						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	43.4141						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.8411	0.0194	1.1587	2.3100e-003		0.1657	0.1657		0.1657	0.1657	16.6306	6.8100	23.4406	0.0268	1.0900e-003	24.4344			
Landscaping	0.0892	0.0319	2.7839	1.5000e-004		0.0153	0.0153		0.0153	0.0153	0.0000	4.5897	4.5897	4.6800e-003	0.0000	4.7066			
Total	50.2071	0.0512	3.9426	2.4600e-003		0.1810	0.1810		0.1810	0.1810	16.6306	11.3997	28.0303	0.0314	1.0900e-003	29.1410			

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e			
SubCategory	tons/yr										MT/yr								
Architectural Coating	5.8628						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
Consumer Products	43.4141						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
Hearth	0.8411	0.0194	1.1587	2.3100e-003		0.1657	0.1657		0.1657	0.1657	16.6306	6.8100	23.4406	0.0268	1.0900e-003	24.4344			
Landscaping	0.0892	0.0319	2.7839	1.5000e-004		0.0153	0.0153		0.0153	0.0153	0.0000	4.5897	4.5897	4.6800e-003	0.0000	4.7066			
Total	50.2071	0.0512	3.9426	2.4600e-003		0.1810	0.1810		0.1810	0.1810	16.6306	11.3997	28.0303	0.0314	1.0900e-003	29.1410			

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3,629.9118	107.2033	2.5788	7,078.4679
Unmitigated	3,629.9118	107.2033	2.5788	7,078.4679

7.2 Water by Land Use

Unmitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	23.5858 / 14.8693	31.1031	0.7709	0.0186	55.9292
Free-Standing Discount Store	2.95772 / 1.81279	3.8766	0.0967	2.3400e- 003	6.9896
General Light Industry	51.3144 / 0	52.7837	1.6757	0.0402	106.6677
General Office Building	861.042 / 527.735	1,128.5300	28.1426	0.6802	2,034.794 1
Motel	10.1467 / 1.12741	10.9560	0.3314	7.9700e- 003	21.6153
Place of Worship	0.158025 / 0.247167	0.2763	5.1700e- 003	1.3000e- 004	0.4432
Research & Development	2322.92 / 0	2,389.4386	75.8579	1.8215	4,828.684 1
Single Family Housing	0.065154 / 0.0410754	0.0859	2.1300e- 003	5.0000e- 005	0.1545
Strip Mall	9.81313 / 6.0145	12.8616	0.3207	7.7500e- 003	23.1902
Total		3,629.9118	107.2033	2.5788	7,078.467 9

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	23.5858 / 14.8693	31.1031	0.7709	0.0186	55.9292
Free-Standing Discount Store	2.95772 / 1.81279	3.8766	0.0967	2.3400e-003	6.9896
General Light Industry	51.3144 / 0	52.7837	1.6757	0.0402	106.6677
General Office Building	861.042 / 527.735	1,128.5300	28.1426	0.6802	2,034.7941
Motel	10.1467 / 1.12741	10.9560	0.3314	7.9700e-003	21.6153
Place of Worship	0.158025 / 0.247167	0.2763	5.1700e-003	1.3000e-004	0.4432
Research & Development	2322.92 / 0	2,389.4386	75.8579	1.8215	4,828.6841
Single Family Housing	0.065154 / 0.0410754	0.0859	2.1300e-003	5.0000e-005	0.1545
Strip Mall	9.81313 / 6.0145	12.8616	0.3207	7.7500e-003	23.1902
Total		3,629.9118	107.2033	2.5788	7,078.4679

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			

Mitigated	1,367.5116	80.8176	0.0000	3,387.9520
Unmitigated	1,367.5116	80.8176	0.0000	3,387.9520

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	166.52	33.8021	1.9976	0.0000	83.7432
Free-Standing Discount Store	171.73	34.8596	2.0602	0.0000	86.3633
General Light Industry	275.16	55.8550	3.3009	0.0000	138.3784
General Office Building	4505.44	914.5636	54.0492	0.0000	2,265.7926
Motel	219	44.4550	2.6272	0.0000	110.1354
Place of Worship	900	182.6919	10.7968	0.0000	452.6114
Research & Development	359.02	72.8778	4.3070	0.0000	180.5517
Single Family Housing	0.84	0.1705	0.0101	0.0000	0.4224
Strip Mall	139.1	28.2360	1.6687	0.0000	69.9536
Total		1,367.5116	80.8176	0.0000	3,387.9520

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	166.52	33.8021	1.9976	0.0000	83.7432
Free-Standing Discount Store	171.73	34.8596	2.0602	0.0000	86.3633
General Light Industry	275.16	55.8550	3.3009	0.0000	138.3784
General Office Building	4505.44	914.5636	54.0492	0.0000	2,265.7926
Motel	219	44.4550	2.6272	0.0000	110.1354
Place of Worship	900	182.6919	10.7968	0.0000	452.6114
Research & Development	359.02	72.8778	4.3070	0.0000	180.5517
Single Family Housing	0.84	0.1705	0.0101	0.0000	0.4224
Strip Mall	139.1	28.2360	1.6687	0.0000	69.9536
Total		1,367.5116	80.8176	0.0000	3,387.9520

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Proposed NBPP 2030, Operational - Santa Clara County, Annual

Proposed NBPP 2030, Operational
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	5,875.38	1000sqft	134.88	5,875,378.00	23502
Research & Development	3,834.66	1000sqft	88.03	3,834,661.00	13421
Place of Worship	100.00	Seat	0.12	5,050.51	10
General Light Industry	137.67	1000sqft	3.16	137,671.00	165
Motel	400.00	Room	18.00	784,080.00	160
Apartments Mid Rise	10,212.00	Dwelling Unit	268.74	10,212,000.00	17998
Single Family Housing	1.00	Dwelling Unit	0.32	1,800.00	2
Free-Standing Discount Store	24.31	1000sqft	0.56	24,308.00	73
Strip Mall	192.93	1000sqft	4.43	192,931.00	532

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	289.84	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised CO2 Emission Intensity

Land Use - Assuming the capacity of the church to be 100

Construction Phase - only operational emissions modeled

Off-road Equipment -

Off-road Equipment - Only operational emission modeled

Woodstoves - defaults used, since unknown how many residential units could have woodstoves or fireplaces

Energy Use - Default energy intensity values considered

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	360.00	1.00
tblLandUse	BuildingSpaceSquareFeet	5,875,380.00	5,875,378.00
tblLandUse	BuildingSpaceSquareFeet	3,834,660.00	3,834,661.00
tblLandUse	BuildingSpaceSquareFeet	137,670.00	137,671.00
tblLandUse	BuildingSpaceSquareFeet	24,310.00	24,308.00
tblLandUse	BuildingSpaceSquareFeet	192,930.00	192,931.00
tblLandUse	LandUseSquareFeet	5,875,380.00	5,875,378.00
tblLandUse	LandUseSquareFeet	3,834,660.00	3,834,661.00
tblLandUse	LandUseSquareFeet	137,670.00	137,671.00
tblLandUse	LandUseSquareFeet	24,310.00	24,308.00
tblLandUse	LandUseSquareFeet	192,930.00	192,931.00
tblLandUse	Population	0.00	23,502.00
tblLandUse	Population	0.00	13,421.00
tblLandUse	Population	0.00	10.00
tblLandUse	Population	0.00	165.00
tblLandUse	Population	0.00	160.00
tblLandUse	Population	29,206.00	17,998.00
tblLandUse	Population	3.00	2.00
tblLandUse	Population	0.00	73.00
tblLandUse	Population	0.00	532.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	289.84
tblProjectCharacteristics	OperationalYear	2018	2030
tblTripsAndVMT	WorkerTripNumber	0.00	18.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Area	120.9695	1.4152	108.1829	0.0686			5.0608	5.0608		5.0608	465.6892	315.3202	781.0094	0.8670	0.0305	811.7844	
Energy	1.8897	16.8469	11.9919	0.1031			1.3056	1.3056		1.3056	1.3056	0.0000	44,216.32	44,216.328	2.9113	0.8710	44,548.6821
Mobile	22.7360	98.1926	262.0320	1.1296	130.7268	0.7570	131.4837	34.9846	0.7037	35.6883	0.0000	103,944.4	103,944.44	2.9882	0.0000	104,019.1506	
Waste							0.0000	0.0000		0.0000	2,446.185	0.0000	2,446.1852	144.5654	0.0000	6,060.3204	
Water							0.0000	0.0000		0.0000	1,159.049	3,091.647	4,250.6978	119.3549	2.8749	8,091.2967	
Total	145.5952	116.4546	382.2068	1.3013	130.7268	7.1234	137.8502	34.9846	7.0701	42.0547	4,070.924	151,567.7	155,638.66	270.6868	3.7765	163,531.2342	

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Area	120.9695	1.4152	108.1829	0.0686			5.0608	5.0608		5.0608	465.6892	315.3202	781.0094	0.8670	0.0305	811.7844	
Energy	1.8897	16.8469	11.9919	0.1031			1.3056	1.3056		1.3056	1.3056	0.0000	44,216.32	44,216.328	2.9113	0.8710	44,548.6821
Mobile	22.7360	98.1926	262.0320	1.1296	130.7268	0.7570	131.4837	34.9846	0.7037	35.6883	0.0000	103,944.4	103,944.44	2.9882	0.0000	104,019.1506	

Waste						0.0000	0.0000		0.0000	0.0000	2,446.185 2	0.0000	2,446.1852	144.5654	0.0000	6,060.320 4
Water						0.0000	0.0000		0.0000	0.0000	1,159.049 9	3,091.647 9	4,250.6978	119.3549	2.8749	8,091.296 7
Total	145.5952	116.4546	382.2068	1.3013	130.7268	7.1234	137.8502	34.9846	7.0701	42.0547 3	4,070.924 417	151,567.7 60	155,638.66	270.6868	3.7765	163,531.2 342

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr												MT/yr			
Mitigated	22.7360	98.1926	262.0320	1.1296	130.7268	0.7570	131.4837	34.9846	0.7037	35.6883	0.0000	103,944.4 453	103,944.44 53	2.9882	0.0000	104,019.1 506
Unmitigated	22.7360	98.1926	262.0320	1.1296	130.7268	0.7570	131.4837	34.9846	0.7037	35.6883	0.0000	103,944.4 453	103,944.44 53	2.9882	0.0000	104,019.1 506

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	67,909.80	65,254.68	59842.32	153,307,113	153,307,113
Free-Standing Discount Store	1,391.50	1,727.71	1370.11	2,239,845	2,239,845
General Light Industry	959.56	181.72	93.62	2,115,870	2,115,870
General Office Building	64,805.44	14,453.43	6169.15	117,661,116	117,661,116
Motel	2,252.00	2,252.00	2252.00	4,273,775	4,273,775
Place of Worship	61.00	90.00	185.00	155,000	155,000

Research & Development	31,099.09	7,285.85	4256.47	59,805,432	59,805,432
Single Family Housing	9.52	9.91	8.62	21,819	21,819
Strip Mall	8,550.66	8,110.78	3941.56	12,057,496	12,057,496
Total	177,038.58	99,366.09	78,118.85	351,637,465	351,637,465

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Free-Standing Discount Store	9.50	7.30	7.30	12.20	68.80	19.00	47.5	35.5	17
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Motel	9.50	7.30	7.30	19.00	62.00	19.00	58	38	4
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Research & Development	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Place of Worship	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
General Light Industry	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Motel	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Apartments Mid Rise	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Single Family Housing	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Free-Standing Discount Store	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Strip Mall	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	25,514.40	25,514.406	2.5529	0.5282	25,735.62	40
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	25,514.40	25,514.406	2.5529	0.5282	25,735.62	40
NaturalGas Mitigated	1.8897	16.8469	11.9919	0.1031			1.3056	1.3056		1.3056	0.0000	18,701.92	18,701.922	0.3585	0.3429	18,813.05	81
NaturalGas Unmitigated	1.8897	16.8469	11.9919	0.1031			1.3056	1.3056		1.3056	0.0000	18,701.92	18,701.922	0.3585	0.3429	18,813.05	81

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr											MT/yr					
Apartments Mid Rise	1.13037e+008	0.6095	5.2086	2.2164	0.0333		0.4211	0.4211		0.4211	0.4211	0.0000	6,032.1031	6,032.103	0.1156	0.1106	6,067.9489	
Free-Standing Discount Store	57853	3.1000e-004	2.8400e-003	2.3800e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.0873	3.0873	6.0000e-005	6.0000e-005	3.1056	
General Light Industry	3.64553e+006	0.0197	0.1787	0.1501	1.0700e-003		0.0136	0.0136		0.0136	0.0136	0.0000	194.5393	194.5393	3.7300e-003	3.5700e-003	195.6953	
General Office Building	9.665e+007	0.5212	4.7377	3.9797	0.0284		0.3601	0.3601		0.3601	0.3601	0.0000	5,157.6104	5,157.610	0.0989	0.0946	5,188.2595	
Motel	3.48994e+007	0.1882	1.7108	1.4370	0.0103		0.1300	0.1300		0.1300	0.1300	0.0000	1,862.3649	1,862.364	0.0357	0.0341	1,873.4320	
Place of Worship	133738	7.2000e-004	6.5600e-003	5.5100e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1367	7.1367	1.4000e-004	1.3000e-004	7.1792	
Research & Development	1.01542e+008	0.5475	4.9775	4.1811	0.0299		0.3783	0.3783		0.3783	0.3783	0.0000	5,418.6584	5,418.658	0.1039	0.0993	5,450.8588	

Single Family Housing	35952.6	1.9000e-004	1.6600e-003	7.0000e-004	1.0000e-005			1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.9186	1.9186	4.0000e-005	4.0000e-005	1.9300
Strip Mall	459176	2.4800e-003	0.0225	0.0189	1.4000e-004			1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	24.5034	24.5034	4.7000e-004	4.5000e-004	24.6490
Total			1.8897	16.8469	11.9919	0.1031		1.3056	1.3056		1.3056	1.3056	0.0000	18,701.9220	18,701.92	0.3585	0.3429	18,813.0581

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr												MT/yr				
Apartments Mid Rise	1.13037e+008	0.6095	5.2086	2.2164	0.0333			0.4211	0.4211		0.4211	0.4211	0.0000	6,032.1031	6,032.1031	0.1156	0.1106	6,067.9489
Free-Standing Discount Store	57853	3.1000e-004	2.8400e-003	2.3800e-003	2.0000e-005			2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.0873	3.0873	6.0000e-005	6.0000e-005	3.1056
General Light Industry	3.64553e+006	0.0197	0.1787	0.1501	1.0700e-003			0.0136	0.0136		0.0136	0.0136	0.0000	194.5393	194.5393	3.7300e-003	3.5700e-003	195.6953
General Office Building	9.665e+007	0.5212	4.7377	3.9797	0.0284			0.3601	0.3601		0.3601	0.3601	0.0000	5,157.6104	5,157.6104	0.0989	0.0946	5,188.2595
Motel	3.48994e+007	0.1882	1.7108	1.4370	0.0103			0.1300	0.1300		0.1300	0.1300	0.0000	1,862.3649	1,862.3649	0.0357	0.0341	1,873.4320
Place of Worship	133738	7.2000e-004	6.5600e-003	5.5100e-003	4.0000e-005			5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1367	7.1367	1.4000e-004	1.3000e-004	7.1792
Research & Development	1.01542e+008	0.5475	4.9775	4.1811	0.0299			0.3783	0.3783		0.3783	0.3783	0.0000	5,418.6584	5,418.6584	0.1039	0.0993	5,450.8588
Single Family Housing	35952.6	1.9000e-004	1.6600e-003	7.0000e-004	1.0000e-005			1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.9186	1.9186	4.0000e-005	4.0000e-005	1.9300
Strip Mall	459176	2.4800e-003	0.0225	0.0189	1.4000e-004			1.7100e-003	1.7100e-003		1.7100e-003	1.7100e-003	0.0000	24.5034	24.5034	4.7000e-004	4.5000e-004	24.6490
Total			1.8897	16.8469	11.9919	0.1031		1.3056	1.3056		1.3056	1.3056	0.0000	18,701.9220	18,701.92	0.3585	0.3429	18,813.0581

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	4.50448e+007	5,922.0078	0.5925	0.1226	5,973.3533
Free-Standing Discount Store	266173	34.9935	3.5000e-003	7.2000e-004	35.2969
General Light Industry	1.15919e+006	152.3978	0.0153	3.1500e-003	153.7191
General Office Building	1.07049e+008	14,073.698	1.4082	0.2913	14,195.72
Motel	6.10014e+006	801.9809	0.0802	0.0166	808.9343
Place of Worship	42525.3	5.5908	5.6000e-004	1.2000e-004	5.6392
Research & Development	3.22878e+007	4,244.8576	0.4247	0.0879	4,281.6618
Single Family Housing	8658.17	1.1383	1.1000e-004	2.0000e-005	1.1482
Strip Mall	2.11259e+006	277.7411	0.0278	5.7500e-003	280.1492
Total		25,514.406	2.5529	0.5282	25,735.62
		4			40

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	4.50448e+007	5,922.0078	0.5925	0.1226	5,973.3533
Free-Standing Discount Store	266173	34.9935	3.5000e-003	7.2000e-004	35.2969
General Light Industry	1.15919e+006	152.3978	0.0153	3.1500e-003	153.7191
General Office Building	1.07049e+008	14,073.698	1.4082	0.2913	14,195.72

Motel	6.10014e+006	801.9809	0.0802	0.0166	808.9343
Place of Worship	42525.3	5.5908	5.6000e-004	1.2000e-004	5.6392
Research & Development	3.22878e+007	4,244.8576	0.4247	0.0879	4,281.6618
Single Family Housing	8658.17	1.1383	1.1000e-004	2.0000e-005	1.1482
Strip Mall	2.11259e+006	277.7411	0.0278	5.7500e-003	280.1492
Total		25,514.4064	2.5529	0.5282	25,735.6240

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr											MT/yr				
Mitigated	120.9695	1.4152	108.1829	0.0686		5.0608	5.0608		5.0608	5.0608	465.6892	315.3202	781.0094	0.8670	0.0305	811.7844
Unmitigated	120.9695	1.4152	108.1829	0.0686		5.0608	5.0608		5.0608	5.0608	465.6892	315.3202	781.0094	0.8670	0.0305	811.7844

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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SubCategory	tons/yr												MT/yr						
Architectural Coating	12.8496						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	82.2806						0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	23.5682	0.5424	32.4540	0.0646		4.6399	4.6399		4.6399	4.6399	465.6892	191.2600	656.9492	0.7485	0.0305	684.7617			
Landscaping	2.2711	0.8728	75.7289	4.0100e-003		0.4209	0.4209		0.4209	0.4209	0.0000	124.0602	124.0602	0.1185	0.0000	127.0228			
Total	120.9695	1.4152	108.1829	0.0686		5.0608	5.0608		5.0608	5.0608	465.6892	315.3202	781.0094	0.8670	0.0305	811.7844			

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
SubCategory	tons/yr										MT/yr							
Architectural Coating	12.8496						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Consumer Products	82.2806						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Hearth	23.5682	0.5424	32.4540	0.0646		4.6399	4.6399		4.6399	4.6399	465.6892	191.2600	656.9492	0.7485	0.0305	684.7617		
Landscaping	2.2711	0.8728	75.7289	4.0100e-003		0.4209	0.4209		0.4209	0.4209	0.0000	124.0602	124.0602	0.1185	0.0000	127.0228		
Total	120.9695	1.4152	108.1829	0.0686		5.0608	5.0608		5.0608	5.0608	465.6892	315.3202	781.0094	0.8670	0.0305	811.7844		

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4,250.6978	119.3549	2.8749	8,091.2967
Unmitigated	4,250.6978	119.3549	2.8749	8,091.2967

7.2 Water by Land Use

Unmitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	665.353 / 419.462	877.4165	21.7472	0.5257	1,577.760 6
Free-Standing Discount Store	1.8007 / 1.10366	2.3601	0.0589	1.4200e- 003	4.2554
General Light Industry	31.8362 / 0	32.7478	1.0397	0.0250	66.1782
General Office Building	1044.25 / 640.026	1,368.6573	34.1308	0.8249	2,467.755 3
Motel	10.1467 / 1.12741	10.9560	0.3314	7.9700e- 003	21.6153
Place of Worship	0.158025 / 0.247167	0.2763	5.1700e- 003	1.3000e- 004	0.4432
Research & Development	1885.48 / 0	1,939.4675	61.5726	1.4785	3,919.362 5
Single Family Housing	0.065154 / 0.0410754	0.0859	2.1300e- 003	5.0000e- 005	0.1545
Strip Mall	14.2908 / 8.75888	18.7303	0.4671	0.0113	33.7717
Total		4,250.6977	119.3549	2.8749	8,091.296 7

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	665.353 / 419.462	877.4165	21.7472	0.5257	1,577.7606
Free-Standing Discount Store	1.8007 / 1.10366	2.3601	0.0589	1.4200e-003	4.2554
General Light Industry	31.8362 / 0	32.7478	1.0397	0.0250	66.1782
General Office Building	1044.25 / 640.026	1,368.6573	34.1308	0.8249	2,467.7553
Motel	10.1467 / 1.12741	10.9560	0.3314	7.9700e-003	21.6153
Place of Worship	0.158025 / 0.247167	0.2763	5.1700e-003	1.3000e-004	0.4432
Research & Development	1885.48 / 0	1,939.4675	61.5726	1.4785	3,919.3625
Single Family Housing	0.065154 / 0.0410754	0.0859	2.1300e-003	5.0000e-005	0.1545
Strip Mall	14.2908 / 8.75888	18.7303	0.4671	0.0113	33.7717
Total		4,250.6977	119.3549	2.8749	8,091.2967

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			

Mitigated	2,446.1852	144.5654	0.0000	6,060.3204
Unmitigated	2,446.1852	144.5654	0.0000	6,060.3204

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	4697.52	953.5541	56.3534	0.0000	2,362.389
Free-Standing Discount Store	104.55	21.2227	1.2542	0.0000	52.5784
General Light Industry	170.71	34.6526	2.0479	0.0000	85.8503
General Office Building	5464.1	1,109.1629	65.5497	0.0000	2,747.904
Motel	219	44.4550	2.6272	0.0000	110.1354
Place of Worship	900	182.6919	10.7968	0.0000	452.6114
Research & Development	291.41	59.1536	3.4959	0.0000	146.5505
Single Family Housing	0.84	0.1705	0.0101	0.0000	0.4224
Strip Mall	202.58	41.1219	2.4302	0.0000	101.8778
Total		2,446.1852	144.5654	0.0000	6,060.320
					4

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	4697.52	953.5541	56.3534	0.0000	2,362.3899
Free-Standing Discount Store	104.55	21.2227	1.2542	0.0000	52.5784
General Light Industry	170.71	34.6526	2.0479	0.0000	85.8503
General Office Building	5464.1	1,109.1629	65.5497	0.0000	2,747.9042
Motel	219	44.4550	2.6272	0.0000	110.1354
Place of Worship	900	182.6919	10.7968	0.0000	452.6114
Research & Development	291.41	59.1536	3.4959	0.0000	146.5505
Single Family Housing	0.84	0.1705	0.0101	0.0000	0.4224
Strip Mall	202.58	41.1219	2.4302	0.0000	101.8778
Total		2,446.1852	144.5654	0.0000	6,060.3204

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Attachment 2: Mobile Emissions Calculations from NBPP Operation

North Bayshore Precise Plan AQ & GHG Emissions Analysis

Mobile Emissions

	<u>Service Population</u>	<u>ROG</u>	<u>NOx</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>	<u>CO2/Capita</u>
Existing 2015	25,605	37	237	57	12	151,247	5.91
North Bayshore Precise Plan 2030	38,649	23	190	87	15	205,034	5.31
Proposed North Bayshore Precise Plan 2030 (smaller unit residential)	56,910	34	354	80	15	250,537	4.40

North Bayshore Precise Plan AQ & GHG Emissions Analysis

Mobile Emissions

Land Use	Size ¹	Units	Service Population ²	Units	Trip Rate/unit	VMT ³
Existing 2015						
Single Family Dwelling Units	1 dwellings		2 Residents			
Multi-Family Dwelling Units	362 dwellings		760 Residents			
Office	412910 square feet		1027 Employees			
Research & Development	6374650 square feet		22194 Employees			
Industrial	249521 square feet		299 Employees			
Retail and Restaurant	68954 square feet		227 Employees			
Service Commercial	90732 square feet		272 Employees			
Motel Rooms	0 Rooms		0 Employees			
Church Building	1 Building		10 Employees			
Institutional/Recreation Trips	8135 Trips		814 Employees			
Total		25,605			73,450 trips	501,530 shared 1,001,640 total miles
North Bayshore Precise Plan 2030						
Single Family Dwelling Units	1 dwellings		2 Residents			
Multi-Family Dwelling Units	362 dwellings		760 Residents			
Office	4844563 square feet		19378 Employees			
Research & Development	4724329 square feet		16535 Employees			
Industrial	221897 square feet		266 Employees			
Retail and Restaurant	132481 square feet		371 Employees			
Service Commercial	39932 square feet		120 Employees			
Motel Rooms	400 Rooms		160 Employees			
Church Building	1 Building		10 Employees			
Institutional/Recreation Trips	10469 Trips		1047 Employees			
Total		38,649			92,210 trips	605,210 shared 1,208,320 total miles
Proposed North Bayshore Precise Plan 2030 (smaller unit residential)						
Single Family Dwelling Units	1 dwellings		2 Residents			
Multi-Family Dwelling Units	10212 dwellings		17998 Residents			
Office	5875378 square feet		23502 Employees			
Research & Development	3834661 square feet		13421 Employees			
Industrial	137671 square feet		165 Employees			
Retail and Restaurant	192931 square feet		532 Employees			
Service Commercial	24308 square feet		73 Employees			
Motel Rooms	400 Rooms		160 Employees			
Church Building	1 Building		10 Employees			
Institutional/Recreation Trips	10469 Trips		1047 Employees			
Total		56,910			132,820 or.. 119,940	812,480 shared 1,617,580 total miles

1 Based on Occupied Building Area (Table 3)

2 Based on estimated number of employees and residents (Table 5)

3 Based on shared and then total VMT

North Bayshore Precise Plan AQ & GHG Emissions Analysis

Mobile Emissions

Speed Bin	Existing 2015								North Bayshore Precise Plan 2030								Proposed Northbay Shore Precise Plan (Smaller Unit Residential)																			
	VMT	ROG	NOx	PM10	PM2.5	CO2	Trips	ROG	NOx	PM10	PM2.5	CO2	VMT	ROG	NOx	PM10	PM2.5	CO2	Trips	ROG	NOx	PM10	PM2.5	CO2	Trips	ROG	NOx	PM10	PM2.5	CO2						
Sum/Total:	1,001,640	217	1,637	408	87	1,065,860	73450	49.4	56.3	0.44	0.4	12874.6	1,617,580	155	1,297	623	109	1,457,047	92210	12.6	70.7	0.38	0.35	16163	1,655,690	224	2,395	556	101	1,730,844	119940	16.3	70.7	0.38	0.35	16163
5	55,370	75	351	30	11	185,925							94,040	49	391	41	9	246,648							310,090	161	1,291	134	29	813,302						
10	26,400	46	306	18	8	97,408							49,400	28	382	21	5	161,277							189,230	106	1,463	82	18	617,781						
15	29,430	21	152	15	5	64,284							103,760	28	269	44	9	189,237							155,450	43	403	66	13	283,509						
20	66,210	31	342	33	11	119,477							189,630	28	319	80	16	264,504							190,250	28	320	80	16	265,369						
25	185,630	38	261	78	15	217,770							469,810	37	195	191	32	396,298							276,930	22	115	113	19	233,598						
30	245,080	33	131	100	17	218,980							378,250	20	53	153	25	224,779							323,960	17	46	131	22	192,516						
35	128,820	18	162	54	10	122,184							167,050	9	48	68	11	117,503							77,870	4	22	31	5	54,774						
40	87,400	10	98	36	7	75,990							40,980	2	9	17	3	26,418							40,260	2	9	16	3	25,954						
45	63,650	6	52	26	5	49,916							26,990	1	4	11	2	15,127							30,590	1	5	12	2	17,144						
50	31,710	4	56	13	3	30,203							19,740	1	5	8	1	14,761							23,890	1	6	10	2	17,864						
55	47,620	5	58	20	4	41,482							41,730	1	7	17	3	27,226							17,580	1	3	7	1	11,470						
60	26,030	3	14	11	2	20,865							29,090	1	3	12	2	15,748							13,840	1	1	6	1	7,492						
65	8,290	1	4	3	1	7,302							7,110	0	1	3	0	4,171							5,750	0	1	2	0	3,373						
70	0	0	0	0	0	0							0	0	0	0	0	0						0	0	0	0	0	0							

North Bayshore Precise Plan AQ & GHG Emissions Analysis

Mobile Emissions

	Annual VMT	Trips			CalEEMod VMT Weekday
		Weekday	Sat	Sun	
Existing 2015	129,803,731	68,719	25217	16516	310,611
	% of weekday	62%	23%	15%	
North Bayshore Precise Plan 2030	195,952,625	106,183	34259	20006	498,768
	% of weekday	66%	21%	12%	
Proposed North Bayshore Precise Plan 2030 (smaller unit residential)	351,637,465	177,039	99366	78119	675,375
	% of weekday	50%	28%	22%	

North Bayshore Precise Plan AQ & GHG Emissions Analysis

Mobile Emissions

2015 Emission Rates by VMT (g/mi)

Speed	<u>Running Exhaust</u>						<u>Tire and Brake Wear</u>		<u>Entrained Roadway Dust</u>				
	ROG_RUN	TOG_RUN	CO_RUN	EX	X	NOx_RUN	CO2_RUN	PM10_RU	PM2_5_RU	PM10_PM	PM2_5_P		
	EX	EX	CO_RUN	EX	X	NEX	NEX	NEX	NEX	TW+BW	MTW+BW		
5	0.615373				2.877642	1524.469	0.067464	0.064219		0.049725	0.019774	0.132471	0.009088
10	0.790485				5.254058	1675.122	0.120103	0.114761		0.049725	0.019774	0.132471	0.009088
15	0.322469				2.35229	991.6734	0.049614	0.047344		0.049725	0.019774	0.132471	0.009088
20	0.215225				2.34557	819.2498	0.047278	0.045133		0.049725	0.019774	0.132471	0.009088
25	0.093546				0.6385	532.6048	0.009041	0.008564		0.049725	0.019774	0.132471	0.009088
30	0.061034				0.242897	405.6512	0.003202	0.00299		0.049725	0.019774	0.132471	0.009088
35	0.063221				0.571209	430.614	0.007192	0.006824		0.049725	0.019774	0.132471	0.009088
40	0.054206				0.509579	394.7331	0.006745	0.006403		0.049725	0.019774	0.132471	0.009088
45	0.045825				0.370137	356.0352	0.004519	0.004276		0.049725	0.019774	0.132471	0.009088
50	0.053754				0.799623	432.4191	0.010356	0.009866		0.049725	0.019774	0.132471	0.009088
55	0.049065				0.555046	395.4788	0.008496	0.008084		0.049725	0.019774	0.132471	0.009088
60	0.04603				0.252776	363.9091	0.004088	0.003861		0.049725	0.019774	0.132471	0.009088
65	0.050562				0.231068	399.8831	0.003098	0.002907		0.049725	0.019774	0.132471	0.009088
70													

2015 Emission Rates by Trip (g/trip)

	ROG_STR	NOx_STR	CO2_STR	PM10_ST	PM2_5_S
Trips	EX	EX	EX	REX	TREX
8144196	0.305214	0.347891	79.57909	0.002694	0.002485

North Bayshore Precise Plan AQ & GHG Emissions Analysis

Mobile Emissions

2030 Emission Rates by VMT (g/mi)

Speed	<u>Running Exhaust</u>						<u>Tire and Brake Wear</u>		<u>Entrained Roadway Dust</u>			
	ROG_RUN	TOG_RUN	CO_RUN	EX	X	NOx_RUN	CO2_RUN	PM10_RU	PM2_5_RU	PM10_PM	PM2_5_P	
	EX	EX	CO_RUN	EX	X	NEX	NEX	NEX	NEX	TW+BW	MTW+BW	
5	0.235899				1.889515	1190.749	0.014707	0.013818	0.049322	0.019581	0.132471	0.009088
10	0.253939				3.510944	1482.178	0.015587	0.014814	0.049322	0.019581	0.132471	0.009088
15	0.124434				1.178437	828.0038	0.009842	0.009326	0.049322	0.019581	0.132471	0.009088
20	0.066755				0.764808	633.2579	0.009325	0.008845	0.049322	0.019581	0.132471	0.009088
25	0.035323				0.188027	382.9619	0.002786	0.002599	0.049322	0.019581	0.132471	0.009088
30	0.023466				0.064182	269.7937	0.001676	0.001547	0.049322	0.019581	0.132471	0.009088
35	0.023227				0.129995	319.3444	0.00171	0.001593	0.049322	0.019581	0.132471	0.009088
40	0.019226				0.100472	292.6724	0.001448	0.001347	0.049322	0.019581	0.132471	0.009088
45	0.016633				0.071624	254.4438	0.001231	0.001141	0.049322	0.019581	0.132471	0.009088
50	0.017412				0.118837	339.4845	0.001675	0.001571	0.049322	0.019581	0.132471	0.009088
55	0.016176				0.080717	296.1993	0.00137	0.001277	0.049322	0.019581	0.132471	0.009088
60	0.01649				0.049127	245.77	0.00115	0.001062	0.049322	0.019581	0.132471	0.009088
65	0.018747				0.049042	266.3472	0.001274	0.001174	0.049322	0.019581	0.132471	0.009088
70												

2030 Emission Rates by Trip (g/trip)

Trips	ROG_STR	NOx_STR	CO2_STR	PM10_ST	PM2_5_S
	EX	EX	EX	REX	TREX
9972519	0.061806	0.347891	79.57909	0.001864	0.001715

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County

Region: Santa Clara

Calendar Year: 2030

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, g/mile for RUNEX, PBMW and PMTW

Region	CalYr	VehClass	MdlYr	Speed	Fuel	VMT	ROG_RUNEX	TOG_RUNI	CO_RUNE	NOX_RUNEX	CO2_RUNEX	PM10_RUNEX	PM2_5_RUNEX							
Santa Clarz	2030	HHD ^T	Aggregated	5	GAS	53.94354	2.035697	109.8127	2.970485	52.80707	5.392529	250.8929	3822.705	206.2102	0.007431	0.400963	0.006833	0.388579		
Santa Clarz	2030	HHD ^T	Aggregated	5	DLS	553.954	0.525621	2911.918	2.492838	8.860724	17.90607	99198.18	3366.076	8647909	0.011745	65.6509	0.011237	62.752541		
Santa Clarz	2030	LDA	Aggregated	5	GAS	37727.43	0.3805	1435.914	0.055523	0.728379	0.050235	2011.028	682.9547	5811073	0.009159	345.6509	0.008422	317.8132		
Santa Clarz	2030	LDA	Aggregated	5	DLS	501.685	0.1094	54.9246	0.124636	2.844983	0.066499	32.3614	518.0839	2509319	0.004558	2.286723	0.004361	2.1878		
Santa Clarz	2030	LDT ^T	Aggregated	5	GAS	2381.006	0.060418	435.859	0.088161	1.078642	0.091346	227.4959	772.6278	1839693	0.010007	23.82771	0.009201	21.9087		
Santa Clarz	2030	LDT ^T	Aggregated	5	DLS	1.283785	0.291605	0.374359	0.331972	2.669081	0.193874	0.248989	574.4811	7375103	0.036765	0.047198	0.035174	0.045156		
Santa Clarz	2030	LDT ^T	Aggregated	5	GAS	12579.51	0.051941	653.399	0.075792	0.940737	0.074588	398.2779	875.3048	101094	0.009161	215.2388	0.008423	105.956		
Santa Clarz	2030	LDT ^T	Aggregated	5	DLS	27.60567	0.261485	2.18460	0.297683	2.55956	0.15131	4.177022	654.007	18054	0.009174	0.253245	0.008777	0.242289		
Santa Clarz	2030	LHD ^T 1	Aggregated	5	GAS	7446.739	0.098102	730.5384	0.14315	0.937286	0.283027	2107.628	1331.266	9913591	0.007948	59.18823	0.007308	54.4214		
Santa Clarz	2030	LHD ^T 1	Aggregated	5	DLS	7611.022	0.759389	5779.72	0.864514	3.347435	0.0834208	6394.176	1163.012	8851710	0.034164	260.0267	0.032687	248.7781		
Santa Clarz	2030	LHD ^T 2	Aggregated	5	GAS	2341.195	0.033782	79.0593	0.049294	0.313799	0.103628	242.6129	1388.742	3251181	0.007388	17.29623	0.006793	15.90325		
Santa Clarz	2030	LHD ^T 2	Aggregated	5	DLS	3809.343	0.740847	2822.487	0.843406	3.219268	0.469998	1790.382	1210.964	4612578	0.023157	88.21306	0.022155	84.397		
Santa Clarz	2030	MCY	Aggregated	5	GAS	358.4953	12.51026	4848.74	15.70605	43.44681	1.629719	584.2467	565.6268	20277.0	0.013228	4.742031	0.012334	4.421711		
Santa Clarz	2030	MDV	Aggregated	5	GAS	6902.459	0.088768	612.73	0.12993	1.321411	0.135558	95.6652	1190.203	8215327	0.009588	66.18021	0.008816	60.85026		
Santa Clarz	2030	MDV	Aggregated	5	DLS	183.5655	0.126395	23.2610	0.143893	3.226076	0.075033	15.77752	812.7354	4519102	0.004764	3.474551	0.004558	3.836718		
Santa Clarz	2030	MH	Aggregated	5	GAS	217.718	0.128862	28.0556	0.188035	0.868708	0.353879	77.04583	3722.987	915693	0.008027	1.747561	0.00738	1.606818		
Santa Clarz	2030	MH	Aggregated	5	DLS	56.0729	0.284284	46.25145	0.393093	2.148176	11.5423	647.2119	2021.575	11359.8	0.107697	0.038901	0.103038	5.777661		
Santa Clarz	2030	MHD ^T	Aggregated	5	GAS	760.2592	0.098318	74.7469	0.143465	0.6545	0.239115	181.7694	3680.5	278134	0.00751	5.709918	0.006906	5.250058		
Santa Clarz	2030	MHD ^T	Aggregated	5	DLS	4413.969	0.242684	109.373	0.280327	1.30081	10.1948	4099.87	2137.734	9435892	0.006462	23.43962	0.006143	27.11366		
Santa Clarz	2030	OBUS	Aggregated	5	GAS	423.1026	0.078487	33.2079	0.114527	0.492452	0.196794	83.26399	3682.488	1585070	0.007386	3.125053	0.006791	2.873371		
Santa Clarz	2030	OBUS	Aggregated	5	DLS	461.7508	0.344287	158.972	0.391954	1.90833	13.37984	7178.152	2407.611	111170	0.007753	3.580113	0.007418	3.425239		
Santa Clarz	2030	SBUS	Aggregated	5	GAS	133.9574	0.150906	20.21497	0.22020	0.708459	0.369075	49.44032	1768.928	23960.7	0.006401	0.857527	0.005886	0.788465		
Santa Clarz	2030	SBUS	Aggregated	5	DLS	191.2259	0.394173	73.3773	0.448784	1.300733	10.5933	2025.714	2183.229	3174901	0.029354	5.613181	0.028084	5.370358		
Santa Clarz	2030	UBUS	Aggregated	5	GAS	472.232	0.156001	73.65680	0.227636	1.136773	0.648222	306.1111	369.185	1743410	0.00733	3.461394	0.00674	3.182624		
Santa Clarz	2030	UBUS	Aggregated	5	DLS	625.763	1.609884	2004.202	0.37655	2.89352	0.047550	44.0788	3493.127	217962	0.045767	2.92203	0.0447628	280.1089		
Santa Clarz	2030	HHD ^T	Aggregated	10	GAS	210.5819	1.285987	270.8053	1.876599	48.27705	4.648607	978.9124	3242.651	682845.3	0.004676	9.984611	0.0042499	9.053313		
Santa Clarz	2030	HHD ^T	Aggregated	10	DLS	17796.18	0.433884	7711.471	0.597683	0.653738	14.08932	25073.6	2864.787	5098257	0.0105	186.852	0.010045	178.7691		
Santa Clarz	2030	LDA	Aggregated	10	GAS	26137.44	0.028381	622.8754	0.034774	0.656409	0.046030	1218.091	504.8915	31915673	0.005767	150.7445	0.005303	138.604		
Santa Clarz	2030	LDA	Aggregated	10	DLS	347.4736	0.081871	28.4479	0.093205	0.2129363	0.058598	19.4203	431.6128	149974	0.004033	1.401251	0.003858	1.340634		
Santa Clarz	2030	LDT ^T	Aggregated	10	GAS	1549.116	0.1036	63.4911	0.056179	0.95709	0.078884	130.0955	570.4488	940736	0.006337	10.451	0.005827	9.609312		
Santa Clarz	2030	LDT ^T	Aggregated	10	DLS	8712.736	0.03259	283.9524	0.047559	0.847405	0.070652	659.1326	646.2358	530482	0.00577	50.21703	0.005305	45.22236		
Santa Clarz	2030	LDT ^T	Aggregated	10	DLS	1912.005	0.195729	7.474251	0.222825	1.943027	0.126044	2409959	550.5212	1052.559	0.008573	1.63923	0.008202	0.156832		
Santa Clarz	2030	LHD ^T 1	Aggregated	10	GAS	16287.18	0.028228	102.1935	0.09167	0.799253	0.2426211	4010.091	1309.411	21326618	0.005001	81.60527	0.004607	75.03303		
Santa Clarz	2030	LHD ^T 1	Aggregated	10	DLS	19481.64	0.563744	108.9266	0.617858	1.4911	0.804376	15670.57	977.693	19047068	0.027515	536.0309	0.026324	512.8425		
Santa Clarz	2030	LHD ^T 2	Aggregated	10	GAS	5120.56	0.021476	109.9669	0.031337	0.276372	0.089884	460.2564	1441.455	7381057	0.004665	23.91088	0.004276	21.89322		
Santa Clarz	2030	LHD ^T 2	Aggregated	10	DLS	9750.63	0.553328	539.5103	0.629924	2.045765	0.42016	409.828	106.7222	10493840	0.020462	199.5186	0.019577	190.8875		
Santa Clarz	2030	MCY	Aggregated	10	GAS	248.2986	8.148812	203.214	10.2265	33.95934	1.40869	367.6532	419.5426	1041718	0.008522	2.115982	0.007946	1.970353		
Santa Clarz	2030	MDV	Aggregated	10	GAS	4780.734	0.050636	268.0209	0.081080	1.81652	0.117567	562.0541	878.7565	4201100	0.006051	28.92851	0.005564	26.5987		
Santa Clarz	2030	MDV	Aggregated	10	DLS	127.1399	0.094586	12.0257	0.10768	2.414863	0.062713	69.72619	69.02102	875.7524	0.004383	5.57257	0.004193	5.53315		
Santa Clarz	2030	MH	Aggregated	10	GAS	1146.433	0.081003	81.92950	0.081003	0.81293	0.112801	1.090628	1.012501	31.23107	2.91572	3645568	0.004644	5.323632	0.0042499	5.266.9558
Santa Clarz	2030	MH	Aggregated	10	DLS	289.5	0.618998	179.2	0.704689	1.642334	0.960869	183.5996	185.5995	531405.9	0.094395	27.37375	0.090312	26.15418		
Santa Clarz	2030	MHT ^T	Aggregated	10	GAS	4003.281	0.016861	247.6534	0.059024	0.593413	0.202805	83.92026	239.154	531405.9	0.094395	27.37375	0.090312	26.15418		
Santa Clarz	2030	HHD ^T	Aggregated	15	GAS	20039.72	0.316199	63.9348	0.660988	2.867367	8.734733	17843.1	221.81	442453	0.004746	18.91889	0.004345	17.39522		
Santa Clarz	2030	LDA	Aggregated	15	GAS	11237.4	0.015884	76.6592	0.023178	0.595067	0.040965	456.889	388.5932	3255711	0.003831	426.1485	0.003522	391.8279		
Santa Clarz	2030	LDA	Aggregated	15	DLS	1478.001	0.042047	59.177	0.045819	1.04151	0.038422	56.81879	355.0003	524794.9	0.003414	5.048482	0.003266	4.830048		
Santa Clarz	2030	LDT ^T	Aggregated	15	GAS	7018.415	0.026067	182.950	0.038037	0.866448	0.0684	480.60507	439.3427	303489	0.004232	29.70404	0.003891	27.31177		
Santa Clarz	2030	LDT ^T	Aggregated	15	DLS	3784.713	0.128400	1.024700	0.128461	1.01524	0.135955	0.154479	0.40667	2.91272	0.02128	0.080360	0.002036	0.077052		
Santa Clarz	2030	LDT ^T	Aggregated	15	GAS	3708.204	0.021758	806.7753	0.031749	0.722728	0.052623	2123.32	497.7131	8455321	0.003834	142.1524	0.003525	130.7039		
Santa Clarz	2030	LDT ^T	Aggregated	15	DLS	81.37237	0.095624	77.81147	0.108862	0.494193	0.084588	6832.513	456.4728	77433.9	0.007457	5.60795	0.007134	5.580546		
Santa Clarz	2030	LHD ^T 1	Aggregated	15	GAS	41482.68	0.024372	173.4												

Santa Clarz	2030 LHDT1	Aggregates	25 DSL	55166.07	0.084893	4083.207	0.096645	0.386386	0.707041	39008.68	482.6872	76627958	0.014995	427.2308	0.014347	791.4452
Santa Clarz	2030 LHDT2	Aggregates	25 GAS	11607.3	0.007449	86.92995	0.010928	0.200645	0.066646	733.5749	802.4598	9314389	0.001598	18.55381	0.00147	17.05955
Santa Clarz	2030 LHDT2	Aggregates	25 DSL	27610.81	0.006875	1893.419	0.078068	0.303004	0.25767	714147	544.5355	5050560	0.01233	340.4418	0.011797	325.7145
Santa Clarz	2030 MCY	Aggregates	25 GAS	9334.965	0.034446	2841.964	3.818292	19.90945	1.189784	11106.59	214.0157	1997829	0.003132	29.23776	0.002921	27.26704
Santa Clarz	2030 MDV	Aggregates	25 GAS	17973.51	0.019838	3565.501	0.028947	0.90305	0.08251	14829.9	448.7035	10647783	0.002094	376.3187	0.001925	346.0112
Santa Clarz	2030 MDV	Aggregates	25 DSL	4779.916	0.010919	52.1941	0.012431	0.276252	0.022023	105.2699	411.0699	1964879	0.002744	13.11489	0.002625	12.54754
Santa Clarz	2030 MH	Aggregates	25 GAS	1596.057	0.027949	44.6082	0.040783	0.6094	0.220427	351.8139	1344.976	21466598	0.001734	2.76786	0.001595	2.544945
Santa Clarz	2030 MH	Aggregates	25 DSL	400.3115	0.080165	32.0910	0.091263	0.278942	0.355602	1423.749	1109.382	440098	0.046901	18.77486	0.044872	17.96266
Santa Clarz	2030 MHDT	Aggregates	25 GAS	5573.341	0.021379	119.152	0.031196	0.45511	0.149132	831.1639	1329.627	7410463	0.001623	9.0465	0.001492	8.317141
Santa Clarz	2030 MHDT	Aggregates	25 DSL	31511.88	0.074994	2361.503	0.085314	0.393411	1.530238	48220.68	1282.015	03880	0.003923	123.6349	0.003754	118.2865
Santa Clarz	2030 OBUS	Aggregates	25 GAS	3101.699	0.017112	53.0750	0.024969	0.338441	0.122896	381.198	1330.345	4126330	0.001596	4.951524	0.001468	4.552743
Santa Clarz	2030 OBUS	Aggregates	25 DSL	3192.347	0.102123	426.112	0.116259	0.56427	1.952061	6233.60	1421.544	4871410	0.004908	15.15428	0.0046	14.69006
Santa Clarz	2030 SBUS	Aggregates	25 GAS	2012.007	0.032669	45.750	0.047671	0.755425	0.230679	1280.04	639.0475	1280	0.001639	37.29251	0.013431	38.5761
Santa Clarz	2030 SBUS	Aggregates	25 DSL	3872.165	0.098134	281.856	0.111719	0.390867	2.706437	773.334	1298.411	4111	0.001584	4.07521	0.001456	4.36959
Santa Clarz	2030 UBUS	Aggregates	25 GAS	300.0764	0.039463	10.1916	0.04956	0.800623	0.400345	10.1339	1333.727	400220	0.001584	4.07521	0.001456	4.36959
Santa Clarz	2030 UBUS	Aggregates	25 DSL	397.6365	0.020433	81.2496	0.401882	0.233839	0.685221	270	191.439	60698	0.123101	38.4992	0.117776	46.83189
Santa Clarz	2030 HDT	Aggregates	30 GAS	1024.29	0.344596	352.265	0.502623	34.14803	3.105584	3181.018	1692.797	733914	0.01251	1.281629	0.00115	1.178411
Santa Clarz	2030 HDT	Aggregates	30 DSL	77145.79	0.125465	6971.91	0.188957	0.982481	1.90274	1467883	1624.577	1.5268	0.006557	505.8309	0.006273	483.9488
Santa Clarz	2030 LDA	Aggregates	30 GAS	7921736	0.006455	5117.9	0.00942	0.463351	0.030971	245059.4	221.9685	1766.09	0.001547	1226.77	0.001422	11275.16
Santa Clarz	2030 LDA	Aggregates	30 DSL	105384.1	0.007367	776.3779	0.008387	0.185629	0.018022	1899.281	211.4432	2228744	0.00214	225.4698	0.002047	215.7161
Santa Clarz	2030 LTD1	Aggregates	30 GAS	500154.7	0.010999	5481.156	0.015992	0.657862	0.05067	25345.86	250.7722	1.2568	0.001729	864.9722	0.001059	795.31
Santa Clarz	2030 LTD1	Aggregates	30 DSL	269.6723	0.02731	73.36469	0.031019	0.229093	0.097924	26.40726	238.8441	6409.64	0.011776	3.175738	0.012167	3.038357
Santa Clarz	2030 LTD2	Aggregates	30 GAS	6244256	0.008873	23447.43	0.012948	0.596345	0.043115	113930.8	284.0968	7.5168	0.001549	4093.002	0.001244	3763.364
Santa Clarz	2030 LTD2	Aggregates	30 DSL	5798.855	0.01691	98.05695	0.019251	0.167761	0.035615	206.5274	21.9705	1576752	0.00482	27.94907	0.004611	26.74001
Santa Clarz	2030 LHDY1	Aggregates	30 GAS	31293.19	0.017679	553.2474	0.025798	0.505128	0.171803	5376.273	65.07273	20560479	0.001351	42.27104	0.001242	38.86667
Santa Clarz	2030 LHDY1	Aggregates	30 DSL	44175.72	0.063333	293.0908	0.075516	0.307663	0.71926	3177.049	438.3322	1936341	0.012989	573.7822	0.012427	548.9607
Santa Clarz	2030 LHDY2	Aggregates	30 GAS	9883.327	0.05088	57.8519	0.0885	0.183912	0.061892	608.914	75.3002	7135740	0.001246	12.626021	0.001146	11.27281
Santa Clarz	2030 LHDY2	Aggregates	30 DSL	22110.1	0.029159	1138.54	0.050642	0.23333	0.249261	5511.365	491.0842	10857921	0.010841	239.691	0.010372	229.322
Santa Clarz	2030 MCV	Aggregates	30 GAS	75305.63	0.432322	183235.2	0.305108	17.81601	1.140804	8509.87	184.2109	13872121	0.002492	187.6396	0.002324	174.9977
Santa Clarz	2030 MDV	Aggregates	30 GAS	144993.2	0.015599	2255.98	0.02270	0.83025	0.071641	11046.07	386.3133	5.608	0.001634	2369.746	0.001503	2178.894
Santa Clarz	2030 MDV	Aggregates	30 DSL	38559.82	0.008263	318.63	0.009407	0.208844	0.186144	718.9177	355.0363	13690317	0.002425	93.50836	0.00232	89.46323
Santa Clarz	2030 MH	Aggregates	30 GAS	1735.05	0.0217	37.7550	0.031759	0.026612	0.20458	354.9724	125.978	2144483	0.001352	2.344946	0.001243	2.156091
Santa Clarz	2030 MH	Aggregates	30 DSL	6058.697	0.016655	100.9089	0.024039	0.418426	0.138464	836.9139	122.873	7402957	0.001265	7.663935	0.001163	7.046706
Santa Clarz	2030 MHDT	Aggregates	30 DSL	38225.58	0.05524	211.516	0.062887	0.289883	0.985421	3768.5	1212.118	6393929	0.003607	17.8859	0.003451	15.192
Santa Clarz	2030 OBUS	Aggregates	30 GAS	3371.811	0.013339	44.97659	0.019364	0.31094	0.114145	384.8747	222.533	4122150	0.001244	4.195347	0.001144	3.857467
Santa Clarz	2030 OBUS	Aggregates	30 DSL	3924.371	0.017586	297.702	0.080632	0.419761	1.25151	491.1598	136.352	5383453	0.004448	17.45677	0.004256	16.70159
Santa Clarz	2030 SBUS	Aggregates	30 GAS	2413.879	0.025452	61.4373	0.037139	0.695214	0.213833	516.1671	587.2586	1417571	0.001078	2.601833	0.000991	2.39229
Santa Clarz	2030 SBUS	Aggregates	30 DSL	3445.843	0.01738	54.2308	0.080402	0.294716	0.224444	7734.018	1225.789	4228376	0.012255	42.22714	0.011724	40.40041
Santa Clarz	2030 UBUS	Aggregates	30 GAS	297.7506	0.026452	7.876219	0.038599	0.73660	0.371389	110.5814	125.641	3649354	0.001234	0.367478	0.001135	0.337882
Santa Clarz	2030 UBUS	Aggregates	30 DSL	394.5546	0.163059	61.504201	0.031435	0.273312	0.654200	2581.178	1794.175	707900	0.010142	40.20207	0.0097044	38.28901
Santa Clarz	2030 HDTDT	Aggregates	35 GAS	1893.114	0.284363	356.622	0.413629	31.54974	2.918415	5320.893	1623.527	3073320	0.001029	9.47498	0.000946	7.90652
Santa Clarz	2030 HDTDT	Aggregates	35 DSL	143080.2	0.091719	3138.547	0.150443	0.693284	1.352744	193531.7	155.0731	2.23E+08	0.00607	868.5678	0.005508	830.994
Santa Clarz	2030 LDA	Aggregates	35 GAS	172677.0	0.005304	9159.07	0.00774	0.462681	0.029237	50485.85	198.0973	3.24E+08	0.00172	219.6718	0.00117	209.801
Santa Clarz	2030 LDA	Aggregates	35 DSL	22955.84	0.005891	135.222	0.006076	0.147968	0.01617	371.2074	191.1904	4377780	0.001549	42.23282	0.001243	39.30976
Santa Clarz	2030 LTD1	Aggregates	35 GAS	108948.4	0.008054	904.4074	0.013211	0.60472	0.047088	508.62	223.8167	43434564	0.001425	155.2372	0.001311	142.7349
Santa Clarz	2030 LTD1	Aggregates	35 DSL	587427.8	0.022606	3.12794	0.025736	0.192125	0.030663	516.56295	215.566	6262.95	0.010425	61.3271	0.009974	5.8588
Santa Clarz	2030 LTD2	Aggregates	35 GAS	12105.5	0.010952	44.4442	0.026031	0.150349	0.030994	179.059	11.40217	2.22E+08	0.00112	2.34779	0.00112	2.34779
Santa Clarz	2030 LTD2	Aggregates	35 DSL	3088.866	0.004822	18.3787	0.007040	0.161829	0.05936	226.765	2.702572	0.001025	3.903679	0.000942	3.589289	
Santa Clarz	2030 MDT	Aggregates	35 GAS	4993.702	0.245895	356.5247	0.358809	29.2055	2.79125	4047.056	1564.785	268794	0.000892	1.293708	0.000882	1.189517
Santa Clarz	2030 MDT	Aggregates	35 DSL	124392.4	0.068164	8479.179	0.105573	0.493142	1.007066	125271.3	1483.799	1.85E+08	0.005676	706.0596	0.0005431	675.5158
Santa Clarz	2030 LDA	Aggregates	40 GAS	177178.2	0.0046	817.885	0.006712	0.39472	0.029772	479.1193	133.6093	1.09E+08	0.001103	196.1099	0.001015	180.158
Santa Clarz	2030 LDA	Aggregates	40 DSL	23626.03	0.004888	115.4964	0.005056	0.122364	0.018488	315.6932	51.6394	178.8646	0.001766	41.73506	0.000169	39.2962
Santa Clarz	2030 LTD1	Aggregates	40 GAS	3536.724	0.005712	197.0383	0.036424	0.223614	0.197344	506.688	116.12	413310	0.011498	40.66957	0.010101	38.90678
Santa Clarz	2030 LTD1	Aggregates	40 DSL	40.65477	0.019552	1.80512	0.022229	0.16726	0.096157	5.813416	201.1922	126				

Santa Clarz	2030 LDA	Aggregatec	50 GAS	1172358	0.004061	4760.414	0.005925	0.341438	0.026831	31455.35	176.5891	2.707e+08	0.000974	1142.246	0.000896	1050.253
Santa Clarz	2030 LDA	Aggregatec	50 DSL	15585.44	0.003651	56.9063	0.004157	0.090467	0.012363	206.7145	173.2093	2699542	0.001551	24.17409	0.001484	23.12833
Santa Clarz	2030 LDT1	Aggregatec	50 GAS	73968.75	0.006895	510.0033	0.010061	0.485647	0.04454	3294.584	199.5146	14757846	0.001089	80.55043	0.001001	74.06646
Santa Clarz	2030 LDT1	Aggregatec	50 DSL	39.8823	0.01633	651.4626	0.018596	0.14594	0.09785	3.90237	194.3057	7749.356	0.008801	0.351012	0.00842	0.335827
Santa Clarz	2030 LDT2	Aggregatec	50 GAS	39079.47	0.005582	2181.306	0.008145	0.439518	0.037456	14637.61	26.0219	88328766	0.000976	381.2506	0.000897	350.5458
Santa Clarz	2030 LDT2	Aggregatec	50 DSL	857.6028	0.008131	69.730301	0.009256	0.08070	0.023145	19.84953	221.2035	189704.8	0.003469	2.975395	0.003319	2.84668
Santa Clarz	2030 LHD1	Aggregatec	50 GAS	31672.33	0.011642	368.7227	0.016988	0.393532	0.151466	4797.288	687.11	21762376	0.000856	27.10222	0.000787	24.91949
Santa Clarz	2030 LHD1	Aggregatec	50 DSL	54750.09	0.038423	2103.65	0.043742	0.205653	0.812062	44640.47	435.9665	23889226	0.009563	523.5756	0.009149	500.926
Santa Clarz	2030 LHD2	Aggregatec	50 GAS	9995.528	0.003797	37.80701	0.00554	0.13953	0.05399	37.6063	721.4643	7184001	0.000786	7.82459	0.000723	7.194422
Santa Clarz	2030 LHD2	Aggregatec	50 DSL	27402.61	0.026889	736.8262	0.030611	0.128244	0.252343	6944.771	471.5624	12922038	0.007861	215.4007	0.007521	206.0826
Santa Clarz	2030 MCY	Aggregatec	50 GAS	11137.08	1.057453	18459.19	0.27712	15.3976	1.04962	12194.68	146.6717	1633494	0.001672	18.62635	0.00156	17.37311
Santa Clarz	2030 MDV	Aggregatec	50 GAS	21443.03	0.009783	209.809	0.014275	0.612072	0.066651	14292.23	207.3452	55904972	0.001029	220.7046	0.000946	202.9298
Santa Clarz	2030 MDV	Aggregatec	50 DSL	5702.679	0.004007	22.8519	0.004562	0.10075	0.01276	72.76242	291.4336	1661952	0.001749	9.97983	0.001673	9.542369
Santa Clarz	2030 MH	Aggregatec	50 GAS	2796.061	0.013609	38.05113	0.019858	0.41088	0.17934	501.4469	922.7463	2508055	0.000851	2.380232	0.000783	2.188535
Santa Clarz	2030 MH	Aggregatec	50 DSL	746.912	0.032672	24.42048	0.031795	0.13344	0.220948	1650.233	234.8705	60920.6	0.041412	30.93089	0.03962	29.59283
Santa Clarz	2030 MHDT	Aggregatec	50 GAS	9763.69	0.010437	101.8994	0.015229	0.307501	0.12151	1186.385	92.2159	806593	0.000797	7.780605	0.000733	7.153979
Santa Clarz	2030 MHDT	Aggregatec	50 DSL	58795.72	0.016339	960.404	0.018599	0.056881	0.31842	18725.23	1038.603	6105408	0.002775	163.1843	0.002655	156.1251
Santa Clarz	2030 OBUS	Aggregatec	50 GAS	543.729	0.008375	45.5093	0.012221	0.229331	0.10028	544.8924	92.7088	4959412	0.000784	4.25975	0.000721	3.916683
Santa Clarz	2030 OBUS	Aggregatec	50 DSL	6607.152	0.023551	155.5064	0.026811	0.13147	0.394127	2604.059	1200.237	7930150	0.003513	23.21036	0.003361	22.20629
Santa Clarz	2030 SBUS	Aggregatec	50 GAS	401.8723	0.016004	6.43175	0.023354	0.512173	0.185405	74.5092	438.4307	17619.2	0.000679	2.72837	0.000624	2.50864
Santa Clarz	2030 SBUS	Aggregatec	50 DSL	573.6778	0.025691	14.73825	0.029247	0.105324	0.159015	912.2383	1049.178	610190	0.011544	6.622515	0.010145	6.336028
Santa Clarz	2030 UBUS	Aggregatec	50 GAS	428.1696	0.016522	7.704031	0.024101	0.539135	0.326596	130.8385	915.0291	39178.76	0.000777	3.32848	0.000715	3.036042
Santa Clarz	2030 UBUS	Aggregatec	50 DSL	567.375	0.039796	55.58899	0.174203	1.151461	0.6096505	3459.005	1524.612	865026.8	0.065872	38.90579	0.065605	37.22275
Santa Clarz	2030 HDT	Aggregatec	55 GAS	249.108	0.221199	97.9006	0.322773	23.53854	0.688849	0.047211	1482.908	3395220	0.000803	1.805101	0.000738	1.659724
Santa Clarz	2030 HDT	Aggregatec	55 DSL	210796.8	0.027739	587.426	0.031579	0.163135	0.483537	10192.73	131.062	2708.08	0.047493	1010.382	0.045486	966.673
Santa Clarz	2030 LDA	Aggregatec	55 GAS	2258596	0.004135	939.439	0.006034	0.319553	0.026911	60792.5	183.3084	0.144608	0.000992	2240.023	0.000912	2059.618
Santa Clarz	2030 LDA	Aggregatec	55 DSL	30025.99	0.032626	97.8972	0.003712	0.080174	0.12741	382.5495	5442206	0.001482	44.49264	0.001418	42.56791	
Santa Clarz	2030 LDT	Aggregatec	55 GAS	14250.3	0.009669	991.9792	0.010190	0.456747	0.045185	6483.731	207.0955	9511909	0.011015	157.48929	0.001016	144.79971
Santa Clarz	2030 LDT	Aggregatec	55 DSL	76.8349	0.015816	1.215253	0.018005	0.146119	0.099374	7.635385	203.1624	1569.96	0.008877	6.682075	0.008493	6.652569
Santa Clarz	2030 LDT2	Aggregatec	55 GAS	752887.5	0.005679	4275.406	0.008286	0.411492	0.037652	2848.039	234.6121	1776.08	0.000993	747.5422	0.000913	687.3375
Santa Clarz	2030 LDT2	Aggregatec	55 DSL	1652.207	0.0207151	11.81408	0.008814	0.071082	0.212595	35.6789	231.2863	882.1329	0.003271	5.40307	0.003129	5.169849
Santa Clarz	2030 LHT1	Aggregatec	55 GAS	8152.246	0.011644	95.0824	0.017019	0.37517	0.160216	130.4598	23.74948	50197.93	0.000872	7.110554	0.000802	6.537892
Santa Clarz	2030 LHT1	Aggregatec	55 DSL	31683.62	0.036747	116.208	0.024184	0.20952	0.842938	2670.73	45.5699	4434105	0.000937	297.7234	0.00899	284.844
Santa Clarz	2030 LHT2	Aggregatec	55 GAS	2563.001	0.003792	9.71957	0.005524	0.130198	0.057000	54.3122	1933.03	0.0008	2.051337	0.000736	1.886129	
Santa Clarz	2030 LHT2	Aggregatec	55 DSL	15857.76	0.024416	587.1904	0.027797	0.120763	0.239237	488.8098	73400119	0.0007512	19.1281	0.001787	13.9708	
Santa Clarz	2030 MCY	Aggregatec	55 GAS	21456.05	1.706044	36612	0.138307	16.14941	1.113015	23944.24	152.0526	326248	0.00172	36.80861	0.001604	34.42577
Santa Clarz	2030 MDV	Aggregatec	55 GAS	41311.04	0.009918	409.3753	0.014477	0.573597	0.067416	27850.51	319.0231	1.32608	0.001046	432.2625	0.000962	397.4494
Santa Clarz	2030 MDV	Aggregatec	55 DSL	10986.45	0.03054	38.8872	0.004040	0.088784	0.12057	132.458	307.5642	337908	0.001655	18.7989	0.001583	17.89306
Santa Clarz	2030 MH	Aggregatec	55 GAS	31466.95	0.01869	43.4234	0.02018	0.381824	0.181715	57.81019	89.3128	282370	0.000867	2.727892	0.000797	2.508198
Santa Clarz	2030 MH	Aggregatec	55 DSL	10935.06	0.03051	31.7016	0.034734	0.126413	2.120431	2303.247	43.5596	90886.9	0.045129	4.698111	0.043176	4.004454
Santa Clarz	2030 MHDT	Aggregatec	55 GAS	10988.08	0.010580	116.3283	0.015448	0.286444	0.121337	153.0308	887.0726	974228	0.000812	8.917303	0.000746	8.191131
Santa Clarz	2030 MHDT	Aggregatec	55 DSL	833.5397	0.010528	87.70102	0.176674	0.305661	0.150285	1.26351	150.0795	1.262829	0.007365	1.610267	0.0074742	5.874642
Santa Clarz	2030 MHDT	Aggregatec	60 GAS	481.7897	0.236167	113.7826	0.344614	21.89179	2.775788	137.346	1462.155	70451.42	0.000862	4.145161	0.000793	3.81959
Santa Clarz	2030 HDT	Aggregatec	60 DSL	61254.11	0.023853	1461.103	0.027155	0.140155	0.044369	2717.73	1293.615	79239240	0.004676	286.4248	0.004474	274.0342
Santa Clarz	2030 HDT	Aggregatec	60 GAS	9904.314	0.018047	79.3897	0.020455	0.101384	0.325637	3236.932	1189.61	1.825097	0.003397	33.7636	0.00325	32.303
Santa Clarz	2030 LDA	Aggregatec	60 GAS	534899.0	0.004414	23613.04	0.006642	0.290884	0.027732	14833.8	196.8356	1.0569-09	0.001065	569.112	0.000979	523.365
Santa Clarz	2030 LDA	Aggregatec	60 DSL	71110.0	0.003122	222.0375	0.003555	0.076327	0.121616	87.2496	196.4966	13972893	0.001467	104.3304	0.001404	99.81714
Santa Clarz	2030 LDT1	Aggregatec	60 GAS	337489.8	0.007349	240.343	0.010724	0.429354	0.047283	15957.64	222.3958	75056319	0.001182	398.8303	0.001087	366.7097
Santa Clarz	2030 LDT1	Aggregatec	60 DSL	181.669	0.016039	2.965196	0.018557	0.157659	0.010787	18.53184	220.665	4004.844	0.009355	1.702242	0.00895	1.628604
Santa Clarz	2030 LDT2	Aggregatec	60 GAS	3912.889	0.006756	107.9571	0.024928	0.126424	0.039289	20.39389	251.9418	4.949-08	0.001066	190.523	0.000998	174.7461
Santa Clarz	2030 LDT2	Aggregatec	60 DSL	3912.889	0.006756	107.9571	0.024928	0.126424	0.039289	20.39389	251.9418	4.949-08	0.001066	190.523	0.000998	174.7461
Santa Clarz	2030 MCY	Aggregatec	60 GAS	50814.04	1.85661	94341.87	0.23263	17.90612	1.148637	5866.93	163.605	8314339	0.01861	945.8556	0.01736	882.2371
Santa Clarz	2030 MDV	Aggregatec	60 GAS	11565.35	0.019495	172.9161	0.017023	0.083512	0.29127	3368.642	1155.198	13360101	0.003231	37.37153	0.003092	35.75486
Santa Clarz	2030 SBUS	Aggregatec	60 GAS	332.9048	0.017355	5.757872	0.025517	0.443219	0.193149	64.30026	428.9952	14281.6	0.000743</td			

EMFAC2014 (v1.0.7) Emission Rates

Region Type: County

Region: Santa Clara

Calendar Year: 2030

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, trips/day for Trips, g/day for PMW, g/trip for STREX, HTRX and RUNLS, g/day/vehicle for IDEXL, RESTL and DIURN		Scenario 1955-1995 977329																	
CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips	ROG RUNI ROG IDELX ROG STREX	ROG HOTS ROG RUNI ROG REST ROG DIUR RUNX RUNI NOx IDEXL NOx STREX	CO2 RUNE CO2 IDELX CO2 STREX	PM10 RUNI PM10 IDELX PM10 STREX	PM10 RUP RUNI PM10 IDELX PM10 STREX	PM10 PMF PM10 PMW	PM2 5 RUNI PM2 5 IDELX PM2 5 STREX	PM2 5 PMF PM2 5 PMW				
Santa Clara	2030	HHD1	Aggregate	Aggregate GAS	103,7965	1.20515	20,76	0.30833	0	0.761858	1582.197	0.048416	0.234666	0.013451	0.021194	0.290881	0	19,0597	
Santa Clara	2030	HHD2	Aggregate	Aggregate GAS	810,914	1.150780	0	0.08773	0.002059	0	0	0	0	0	0	0	0	14975.1	
Santa Clara	2030	HHD3	Aggregate	Aggregate GAS	8695595	2.740239	548625	0.050407	0	0.03233	17683.9	0.06659	0.181919	0.13948	0.126455	0.292128	0	0.033383	183146.1
Santa Clara	2030	LDA	Aggregate	Aggregate GAS	119744	3643033	711947	0.05607	0	0	0	0	0	0	0.015488	0	0	0	
Santa Clara	2030	LDA	Aggregate	Aggregate ELEC	1039211	3813981	670826	0	0	0	0.00884	0	0.00455	0.017501	0	0	0	0	
Santa Clara	2030	LDT1	Aggregate	Aggregate GAS	5624548	1728929	488859	0.009114	0	0.061119	2124.247	0.116397	0.461663	0.232996	0.280285	0.084864	0	0.056041	1955.253
Santa Clara	2030	LDT1	Aggregate	Aggregate DSL	30,22998	932.2328	185.6133	0.02481	0	0	0	0	0	0	0.099718	0	0	0	
Santa Clara	2030	LDT1	Aggregate	Aggregate ELEC	28,68262	844.1758	175.9254	0	0	0	0.004884	0	0.00456	0.017501	0	0	0	0	0.010482
Santa Clara	2030	LDT2	Aggregate	Aggregate GAS	2858824	9134974	180577	0.007427	0	0.043209	78021.94	0.069924	0.287308	0.176027	0.182513	0.040682	0	0.050251	90377.74
Santa Clara	2030	LDT2	Aggregate	Aggregate DSL	620,5025	20046.12	394.074	0.012717	0	0	0	0	0	0	0.028756	0	0	0	
Santa Clara	2030	LHD1	Aggregate	Aggregate GAS	8691132	231.39519	140487	0.029372	0	0.290485	40363.96	0.165911	0.1205986	0.031778	0.075954	0.191898	0.025798	1.404818	18237.29
Santa Clara	2030	LHD1	Aggregate	Aggregate ELEC	112113.9	36359.73	141047	0.10460	0.0976	0	0	0	0	0.075563	0.1537003	0	0	0	0.01536
Santa Clara	2030	LHD2	Aggregate	Aggregate GAS	2167.865	75172.44	3229.97	0.09992	0	0.251736	0.130965	0.053035	0.324455	0.013776	0.020357	0.069408	0.022282	0.070526	2553.327
Santa Clara	2030	LHD2	Aggregate	Aggregate ELEC	516.204	18197.99	6473.72	0.162183	0.0976	0	0	0	0	0.028169	0.131935	0	0	0	0.01228
Santa Clara	2030	LHD2	Aggregate	Aggregate DSL	516.204	18197.99	6473.72	0.162183	0.0976	0	0	0	0	0.028169	0.131935	0	0	0	0.01228
Santa Clara	2030	MCY	Aggregate	Aggregate GAS	38957.53	204328.8	77942.81	2.12287	0	2.113117	16470.2	0.611573	0.152378	0.290933	0.175763	0.131765	0	0.165171	26474.44
Santa Clara	2030	MDV	Aggregate	Aggregate GAS	169938	501228	1048581	0.02983	0	0.09995	0.00000	0.13036	0.441986	0.233397	0.332156	0.072493	0	0.14122	11977.42
Santa Clara	2030	MDV	Aggregate	Aggregate DSL	169938	501228	1048581	0.02983	0	0.09995	0.00000	0	0	0	0	0	0	0.002136	
Santa Clara	2030	MHD	Aggregate	Aggregate GAS	3649365	257488.6	317.0002	0.02402	0	0.281496	89.2436	0.047744	0.110564	0.024	0.05856	0.020259	0	0.08000	253.9354
Santa Clara	2030	MHD	Aggregate	Aggregate DSL	3649365	257488.6	317.0002	0.02402	0	0.281496	89.2436	0.047744	0.110564	0.024	0.05856	0.020259	0	0.08000	253.9354
Santa Clara	2030	MHDT	Aggregate	Aggregate GAS	1883.726	89122.04	3768.69	0.017848	0	0.780296	0.425133	0.056352	0.289408	0.013971	0.023507	0.136962	0.060901	0.970238	3656.879
Santa Clara	2030	MHDT	Aggregate	Aggregate ELEC	179739.7	576573	0.041557	0.162584	0	0	0	0	0	0	1.761458	0.181458	0	0	0.03265
Santa Clara	2030	OBUS	Aggregate	Aggregate GAS	1025.255	20308.73	20513.26	0.014029	0.0574516	0.287631	5000.24	0.01635	0.187527	0.021186	0.025911	0.121948	0.050768	0.276084	14894.33
Santa Clara	2030	OBUS	Aggregate	Aggregate DSL	915,972	62819.06	0.058902	0.16019	0	0	0	0	0	0	1.45473	51931.93	0	0	0.00026
Santa Clara	2030	SBUS	Aggregate	Aggregate GAS	324.5277	1328.33	1298.29	0.031405	0.803705	0.77602	1007.409	0.068603	0.447509	0.013782	0.020972	0.221445	0.71019	1.041399	1530.029
Santa Clara	2030	SBUS	Aggregate	Aggregate DSL	510,870.2	1931.86	0.088645	0.135078	0	0	0	0	0	0	2.7619	21.2311	0	0	0.013512
Santa Clara	2030	UBUS	Aggregate	Aggregate GAS	259.712	3125.71	1038.845	0.031405	0	0.1503744	1562.156	0.088892	0.67843	0.014113	0.024169	0.464081	0	2.610312	2711.708
Santa Clara	2030	UBUS	Aggregate	Aggregate DSL	344,1478	425.70.2	1376.591	0.0367163	0	0	0	0	0	0	0	2172.23	0	0	0.172994

PM2_5_PMBW	
0.02646	379.2349
0.02613	40332.46
0.01575	486410.4
0.01575	6466.386
0.01575	67804.68
0.01575	30689.58
0.01575	1612714
0.01575	1612714.3
0.01575	1621416
0.01575	355.2168
0.02276	8311.795
0.02276	13002.11
0.03822	3023.63
0.03822	7501.213
0.00504	1572.362
0.01575	88968.11
0.01575	2366.037
0.05586	1515.568
0.05586	438.2942
0.05586	5292.279
0.05586	33925.45
0.05586	2945.281
0.05586	3697.531
0.3192	4345.3
0.3192	6222.283
0.05586	1890.92
0.36078	15486.24

North Bayshore Precise Plan AQ & GHG Emissions Analysis

Mobile Emissions

Santa Clara County Entrained Roadway Dust Calculations

PM10

<u>Silt Loading in g/m²</u>	Freeway	Major	Collector	Local
	0.02	0.032	0.032	0.32

Calculated silt loading factor
0.045

<u>Fraction of travel</u>	million VMT per y	Freeway	Major	Collector	Local
Santa Clara County BA	15,374	0.434	0.449	0.054	0.064

<u>Total PM10 emissions</u>	tons per year
Santa Clara County BA	2,243 487.36 773.45 92.29 889.86

Rate 0.14589307
 0.00029179 lbs/mi
 0.1324709 g/mi

http://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9_2014.pdf

North Bayshore Precise Plan AQ & GHG Emissions Analysis

Mobile Emissions

Santa Clara County Entrained Roadway Dust Calculations

PM2.5

Total PM10 emissions	tons per year
Santa Clara County BA	2,243 487.36 773.45 92.29 889.86

PM2.5 Emissions -	ARB Multiplier =	0.0686
	154 33.4329 53.05867 6.331094 61.0444	

million VMT per year

15,374

Rate	0.01000826
	2.0017E-05 lbs/mi
	0.0091 g/mi

http://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9_2014.pdf

Attachment 3: US Highway 101 Emissions and Risk Calculations

Highway 101 Emission Calculations and Roadway Modeling Parameters

North Bayshore Precise Plan, Redwood City, CA

Hwy-101

DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions

Year = 2030

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
NB 101	Northbound 101	NW	4	14056	68	20.6	3.4	4,008	variable
SB 101	Southbound 101	SE	4	14092	68	20.6	3.4	4,008	variable

2030 Hourly Diesel Traffic Volumes Per Direction and DPM Emissions - NB 101

2030 Hourly Diesel Traffic Volumes Per Direction and DPM Emissions - SB 101

North Bayshore Precise Plan, Redwood City, CA

Hwy-101

PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions

Year = 2030

Group Link	Description	Direction	No. Lanes	Link Length (m)	Link Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
NB 101	Northbound 101	NW	4	14056	68	20.6	1.3	130,525	variable
SB 101	Southbound 101	SE	4	14092	68	20.6	1.3	130,525	variable

2030 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - NB 101

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.11%	1446	0.0209	9	7.09%	9249	0.0206	17	7.38%	9631	0.0203
2	0.38%	493	0.0219	10	4.31%	5625	0.0203	18	8.25%	10774	0.0201
3	0.32%	412	0.0222	11	4.62%	6024	0.0199	19	5.77%	7530	0.0192
4	0.21%	276	0.0288	12	5.86%	7649	0.0198	20	4.34%	5664	0.0192
5	0.46%	602	0.0214	13	6.17%	8054	0.0196	21	3.28%	4277	0.0195
6	0.85%	1110	0.0222	14	6.04%	7877	0.0197	22	3.31%	4322	0.0197
7	3.79%	4942	0.0200	15	7.06%	9222	0.0195	23	2.47%	3225	0.0195
8	7.87%	10270	0.0201	16	7.20%	9396	0.0193	24	1.88%	2457	0.0192
Total										130,525	

2030 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - SB 101

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.11%	1446	0.0209	9	7.09%	9249	0.0196	17	7.38%	9631	0.0193
2	0.38%	493	0.0219	10	4.31%	5625	0.0203	18	8.25%	10774	0.0191
3	0.32%	412	0.0222	11	4.62%	6024	0.0199	19	5.77%	7530	0.0192
4	0.21%	276	0.0288	12	5.86%	7649	0.0198	20	4.34%	5664	0.0192
5	0.46%	602	0.0214	13	6.17%	8054	0.0196	21	3.28%	4277	0.0195
6	0.85%	1110	0.0222	14	6.04%	7877	0.0197	22	3.31%	4322	0.0197
7	3.79%	4942	0.0200	15	7.06%	9222	0.0195	23	2.47%	3225	0.0195
8	7.87%	10270	0.0191	16	7.20%	9396	0.0193	24	1.88%	2457	0.0192
Total										130,525	

North Bayshore Precise Plan, Redwood City, CA

Hwy-101

Entrained PM_{2.5} Road Dust Modeling - Roadway Links, Traffic Volumes, and PM_{2.5} Emissions

Year = 2030

Group Link	Description	Direction	No. Lanes	Link Length (m)	Link Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
NB 101	Northbound 101	NW	4	14056	68	20.6	1.3	130,525	variable
SB 101	Southbound 101	SE	4	14092	68	20.6	1.3	130,525	variable

2030 Hourly Traffic Volumes Per Direction and Road Dust PM2.5 Emissions - NB 101

2000 Hourly Traffic Volumes For All Directions and Roadways										Percent Change 1990-2000	
Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.11%	1446	0.0100	9	7.09%	9249	0.0100	17	7.38%	9631	0.0100
2	0.38%	493	0.0100	10	4.31%	5625	0.0100	18	8.25%	10774	0.0100
3	0.32%	412	0.0100	11	4.62%	6024	0.0100	19	5.77%	7530	0.0100
4	0.21%	276	0.0100	12	5.86%	7649	0.0100	20	4.34%	5664	0.0100
5	0.46%	602	0.0100	13	6.17%	8054	0.0100	21	3.28%	4277	0.0100
6	0.85%	1110	0.0100	14	6.04%	7877	0.0100	22	3.31%	4322	0.0100
7	3.79%	4942	0.0100	15	7.06%	9222	0.0100	23	2.47%	3225	0.0100
8	7.87%	10270	0.0100	16	7.20%	9396	0.0100	24	1.88%	2457	0.0100
										Total	130,525

2030 Hourly Traffic Volumes Per Direction and Road Dust PM_{2.5} Emissions - SB 101

2000 Hourly Traffic Volumes Per Direction and Road Dust PM2.5 Emissions SD-101											
Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.11%	1446	0.0100	9	7.09%	9249	0.0100	17	7.38%	9631	0.0100
2	0.38%	493	0.0100	10	4.31%	5625	0.0100	18	8.25%	10774	0.0100
3	0.32%	412	0.0100	11	4.62%	6024	0.0100	19	5.77%	7530	0.0100
4	0.21%	276	0.0100	12	5.86%	7649	0.0100	20	4.34%	5664	0.0100
5	0.46%	602	0.0100	13	6.17%	8054	0.0100	21	3.28%	4277	0.0100
6	0.85%	1110	0.0100	14	6.04%	7877	0.0100	22	3.31%	4322	0.0100
7	3.79%	4942	0.0100	15	7.06%	9222	0.0100	23	2.47%	3225	0.0100
8	7.87%	10270	0.0100	16	7.20%	9396	0.0100	24	1.88%	2457	0.0100
										Total	130,525

North Bayshore Precise Plan, Redwood City, CA

Highway 101 Traffic Data and PM2.5 & TOG Emission Factors - 60 mph Trucks & 65 mph Other Vehicles

Analysis Year = 2030

Vehicle Type	2015 Caltrans Number Vehicles (veh/day)	2030 Number Vehicles (veh/day)	2030 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	155,737	179,098	1.31%	2,350	65	0.0014	0.0189	0.0011	0.0073	0.036
LDT	61,048	70,205	0.19%	135	65	0.0034	0.0189	0.0011	0.0103	0.063
MDT	5,599	6,439	11.30%	728	60	0.0060	0.0219	0.0014	0.0154	0.151
HDT	4,616	5,309	90.47%	4,803	60	0.0036	0.0526	0.0033	0.0236	0.069
Total	227,000	261,050	-	8,016	62.5	-	-	-	-	-
Mix Avg Emission Factor						0.00315	0.01963	0.00117	0.00834	0.04631

Increase From 2015

1.15

Vehicles/Direction

130,525

4,008

Avg Vehicles/Hour/Direction

5,439

167

Traffic Data Year = 2015

Caltrans 2015 Truck AADT Report	Total	Total Truck	Truck by Axle			
			2	3	4	5
101-A Mountain View, Jct Rte 85 South	227,000	10,215	5,599	1,547	360	2,710
0			54.81%	15.14%	3.52%	26.53%
		Percent of Total Vehicles	4.50%	2.47%	0.68%	0.16%
			1.00%			

Traffic Increase per Year (%) = 1.00%

North Bayshore Precise Plan, Redwood City, CA

Highway 101 Traffic Data and PM2.5 & TOG Emission Factors - 45 mph

Analysis Year = 2030

Vehicle Type	2015 Caltrans Number Vehicles (veh/day)	2030 Number Vehicles (veh/day)	2030 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	155,737	179,098	1.31%	2,350	45	0.0016	0.0187	0.0009	0.0061	0.036
LDT	61,048	70,205	0.19%	135	45	0.0038	0.0187	0.0010	0.0088	0.063
MDT	5,599	6,439	11.30%	728	45	0.0056	0.0217	0.0012	0.0149	0.151
HDT	4,616	5,309	90.47%	4,803	45	0.0047	0.0537	0.0044	0.0417	0.069
Total	227,000	261,050	-	8,016	45	-	-	-	-	-
Mix Avg Emission Factor						0.00386	0.01948	0.00102	0.00714	0.04631

North Bayshore Precise Plan, Redwood City, CA

Highway 101 Traffic Data and PM2.5 & TOG Emission Factors - 25 mph

Analysis Year = 2030

Vehicle Type	2015 Caltrans Number Vehicles (veh/day)	2030 Number Vehicles (veh/day)	2030 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	155,737	179,098	1.31%	2,350	25	0.0023	0.0196	0.0018	0.0121	0.036
LDT	61,048	70,205	0.19%	135	25	0.0056	0.0196	0.0019	0.0172	0.063
MDT	5,599	6,439	11.30%	728	25	0.0129	0.0254	0.0049	0.0286	0.151
HDT	4,616	5,309	90.47%	4,803	25	0.0060	0.0547	0.0054	0.0610	0.069
Total	227,000	261,050	-	8,016	25	-	-	-	-	-
Mix Avg Emission Factor						0.00553	0.02045	0.00199	0.01394	0.04631

North Bayshore Precise Plan, Redwood City, CA
Hwy-101 Traffic Data and Entrained PM_{2.5} Road Dust Emission Factors

$$E_{2.5} = [k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N) \times 453.59]$$

where:

$E_{2.5}$ = PM_{2.5} emission factor (g/VMT)

k = particle size multiplier (g/VMT) [$k_{PM2.5} = k_{PM10} \times (0.0686/0.4572) = 1.0 \times 0.15 = 0.15$ g/VMT]

sL = roadway specific silt loading (g/m²)

W = average weight of vehicles on road (Bay Area default = 2.4 tons)^a

P = number of days with at least 0.01 inch of precipitation in the annual averaging period

N = number of days in the annual averaging period (default = 365)

Notes: ^a CARB 2014, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust (Revised and updated, April 2014)

Road Type	Silt Loading (g/m ²)	Average Weight (tons)	County	No. Days ppt > 0.01"	PM _{2.5} Emission Factor (g/VMT)
Freeway	0.02	2.4	Santa Clara	64	0.00996

SFBAAB ^a	
Road Type	Silt Loading (g/m ²)
Collector	0.032
Freeway	0.02
Local	0.32
Major	0.032

SFBAAB ^a	
County	>0.01 inch precipitation
Alameda	61
Contra Costa	60
Marin	66
Napa	68
San Francisco	67
San Mateo	60
Santa Clara	64
Solano	54
Sonoma	69

Highway 101 Traffic Cancer Risk and PM2.5 Concentration Calculations

North Bayshore Precise Plan - Highway 101 DPM, PM2.5 & TOG TACs CAL3QHCR Risk Modeling Parameters and Maximum Concentrations On-Site Residential Receptors (1.5 meter receptor heights)

Receptor Information

Number of Receptors 880
 Receptor Height = 1.5 meters
 Receptor distances = Variable

Meteorological Conditions

Moffett Field Hourly Data 1968-1972
 Land Use Classification urban
 Wind speed = variable
 Wind direction = variable

MEI Maximum Concentrations

Meteorological Data Year	Concentration ($\mu\text{g}/\text{m}^3$)		
	DPM	Exhaust TOG	Evaporative TOG
1968	0.00345	0.28664	1.43932
1969	0.00312	0.24963	1.25344
1970	0.00252	0.21496	1.07937
1971	0.00287	0.24723	1.24141
1972	0.00332	0.28061	1.40901
Maximum	0.0035	0.2866	1.4393
Average	0.0031	0.2558	1.2845

Meteorological Data Year	PM2.5 Concentrations ($\mu\text{g}/\text{m}^3$)		
	Total PM2.5	Road Dust PM2.5	Vehicle PM2.5
1968	0.9170	0.3071	0.60988
1969	0.7983	0.2672	0.53112
1970	0.6878	0.2304	0.45736
1971	0.7912	0.2652	0.52602
1972	0.8977	0.3007	0.59704
Maximum	0.9170	0.3071	0.6099
Average	0.8184	0.2741	0.5443

North Bayshore Precise Plan, Redwood City, CA - Highway 101 Traffic Maximum Cancer Risks
On-Site Residential Receptors (1.5 meter receptor heights)
30-Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)⁻¹

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10⁻⁶

Where: C_{air} = concentration in air (µg/m³)

DBR = daily breathing rate (L/kg body weight-day)

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Cancer Potency Factors (mg/kg-day)⁻¹

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Parameter	Infant/Child			Adult	
	Age -->	3rd Trimester	0 - <2	2 - <16	16 - 30
ASF		10	10	3	1
DBR* =		361	1090	572	261
A =		1	1	1	1
EF =		350	350	350	350
ED =		0.25	2	14	14
AT =		70	70	70	70
FAH =		1.00	1.00	1.00	0.73

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Year	Exposure Duration (years)	Age	Maximum - Exposure Information			Cancer Risk (per million)				
				Age Sensitivity Factor	Annual DPM Conc (ug/m3)			DPM	Exhaust	Evaporative	Total
					DPM	TOG	TOG				
0	2018	0.25	-0.25 - 0*	10	0.0031	0.2558	1.2845	0.042	0.020	0.006	0.07
1	2018	1	1	10	0.0031	0.2558	1.2845	0.50	0.240	0.071	0.81
2	2019	1	2	10	0.0031	0.2558	1.2845	0.50	0.240	0.071	0.81
3	2020	1	3	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
4	2021	1	4	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
5	2022	1	5	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
6	2023	1	6	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
7	2024	1	7	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
8	2025	1	8	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
9	2026	1	9	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
10	2027	1	10	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
11	2028	1	11	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
12	2029	1	12	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
13	2030	1	13	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
14	2031	1	14	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
15	2032	1	15	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
16	2033	1	16	3	0.0031	0.2558	1.2845	0.08	0.038	0.011	0.13
17	2034	1	17	1	0.0031	0.2558	1.2845	0.01	0.0042	0.001	0.014
18	2035	1	18	1	0.0031	0.2558	1.2845	0.01	0.004	0.001	0.014
19	2036	1	19	1	0.0031	0.2558	1.2845	0.01	0.004	0.001	0.014
20	2037	1	20	1	0.0031	0.2558	1.2845	0.01	0.004	0.001	0.014
21	2038	1	21	1	0.0031	0.2558	1.2845	0.01	0.004	0.001	0.014
22	2039	1	22	1	0.0031	0.2558	1.2845	0.01	0.004	0.001	0.014
23	2040	1	23	1	0.0031	0.2558	1.2845	0.01	0.004	0.001	0.014
24	2041	1	24	1	0.0031	0.2558	1.2845	0.01	0.004	0.001	0.014
25	2042	1	25	1	0.0031	0.2558	1.2845	0.01	0.004	0.001	0.014
26	2043	1	26	1	0.0031	0.2558	1.2845	0.01	0.004	0.001	0.014
27	2044	1	27	1	0.0031	0.2558	1.2845	0.01	0.004	0.001	0.014
28	2045	1	28	1	0.0031	0.2558	1.2845	0.01	0.004	0.001	0.014
29	2046	1	29	1	0.0031	0.2558	1.2845	0.01	0.004	0.001	0.014
30	2047	1	30	1	0.0031	0.2558	1.2845	0.01	0.004	0.001	0.014
Total Increased Cancer Risk				Total				2.27	1.087	0.322	3.7

* Third trimester of pregnancy

North Bayshore Precise Plan - Highway 101 Traffic Cancer Risks by Receptor

Receptor	UTM-X (m)	UTM-Y (m)	Concentration			Total Cancer Risk (per million)			
			DPM	Exh TOG	Evap TOG	DPM	Exh TOG	Evap TOG	TOTAL
1	579327.31	4143065.25	0.0017	0.1277	0.6411	1.233	0.543	0.161	1.936
2	579336.75	4143092.50	0.00107	0.0802	0.4029	0.795	0.341	0.101	1.237
3	579346.19	4143120.00	0.00081	0.0604	0.3034	0.606	0.257	0.076	0.939
4	579355.62	4143147.50	0.00067	0.0494	0.2479	0.499	0.210	0.062	0.771
5	579376.00	4143008.25	0.00221	0.1769	0.8881	1.646	0.752	0.223	2.621
6	579385.44	4143035.50	0.00142	0.1104	0.5545	1.060	0.469	0.139	1.668
7	579394.88	4143063.00	0.00101	0.0764	0.3837	0.749	0.325	0.096	1.170
8	579404.31	4143090.50	0.00077	0.0579	0.2906	0.573	0.246	0.073	0.892
9	579413.75	4143118.00	0.00063	0.0471	0.2364	0.469	0.200	0.059	0.728
10	579423.19	4143145.25	0.00054	0.0401	0.2015	0.405	0.171	0.050	0.626
11	579424.69	4142951.00	0.00250	0.2035	1.0220	1.861	0.865	0.256	2.982
12	579432.62	4143172.75	0.00048	0.0351	0.1764	0.354	0.149	0.044	0.548
13	579434.12	4142978.50	0.00169	0.1337	0.6713	1.255	0.568	0.168	1.991
14	579443.56	4143006.00	0.00122	0.0950	0.4772	0.911	0.404	0.120	1.435
15	579451.50	4143227.75	0.00039	0.0284	0.1424	0.287	0.121	0.036	0.444
16	579453.00	4143033.50	0.00093	0.0713	0.3578	0.691	0.303	0.090	1.083
17	579462.50	4143061.00	0.00074	0.0559	0.2807	0.548	0.238	0.070	0.856
18	579471.94	4143088.25	0.00061	0.0458	0.2302	0.454	0.195	0.058	0.707
19	579473.44	4142894.00	0.00266	0.2184	1.0967	1.978	0.928	0.275	3.181
20	579481.38	4143115.75	0.00052	0.0389	0.1954	0.387	0.165	0.049	0.601
21	579482.88	4142921.50	0.00185	0.1483	0.7444	1.374	0.630	0.187	2.191
22	579492.31	4142949.00	0.00137	0.1089	0.5466	1.023	0.463	0.137	1.622
23	579500.25	4143170.75	0.00041	0.0303	0.1524	0.305	0.129	0.038	0.472
24	579501.75	4142976.50	0.00107	0.0835	0.4195	0.798	0.355	0.105	1.258
25	579511.19	4143003.75	0.00086	0.0662	0.3322	0.639	0.281	0.083	1.003
26	579519.12	4143225.50	0.00034	0.0252	0.1264	0.255	0.107	0.032	0.393
27	579520.62	4143031.25	0.00070	0.0537	0.2695	0.524	0.228	0.068	0.820
28	579522.12	4142837.00	0.00276	0.2283	1.1466	2.056	0.970	0.287	3.314
29	579530.06	4143058.75	0.00059	0.0447	0.2243	0.441	0.190	0.056	0.687
30	579531.56	4142864.50	0.00195	0.1580	0.7932	1.448	0.671	0.199	2.319
31	579538.00	4143280.50	0.00029	0.0216	0.1084	0.217	0.092	0.027	0.336
32	579541.00	4142892.00	0.00148	0.1183	0.5939	1.100	0.503	0.149	1.752
33	579548.94	4143113.50	0.00044	0.0333	0.1673	0.330	0.142	0.042	0.514
34	579550.44	4142919.50	0.00117	0.0926	0.4648	0.874	0.393	0.117	1.384
35	579559.88	4142946.75	0.00095	0.0745	0.3742	0.710	0.317	0.094	1.121
36	579567.81	4143168.50	0.00036	0.0268	0.1347	0.268	0.114	0.034	0.416
37	579569.31	4142974.25	0.00079	0.0611	0.3068	0.587	0.260	0.077	0.923
38	579570.81	4142780.00	0.00283	0.2352	1.1810	2.109	1.000	0.296	3.405
39	579578.75	4143001.75	0.00067	0.0510	0.2561	0.496	0.217	0.064	0.777
40	579580.25	4142807.50	0.00202	0.1649	0.8280	1.503	0.701	0.208	2.412
41	579586.69	4143223.50	0.00031	0.0227	0.1138	0.228	0.096	0.029	0.353
42	579589.75	4142835.00	0.00155	0.1251	0.6283	1.157	0.532	0.157	1.846
43	579597.62	4143056.50	0.00049	0.0374	0.1877	0.368	0.159	0.047	0.574
44	579599.19	4142862.25	0.00125	0.0994	0.4990	0.930	0.422	0.125	1.478
45	579605.56	4143278.25	0.00027	0.0197	0.0990	0.201	0.084	0.025	0.310
46	579608.62	4142889.75	0.00103	0.0809	0.4064	0.764	0.344	0.102	1.210
47	579615.50	4143111.50	0.00039	0.0292	0.1467	0.290	0.124	0.037	0.451
48	579618.06	4142917.25	0.00086	0.0671	0.3371	0.639	0.285	0.084	1.008
49	579619.56	4142723.00	0.00288	0.2402	1.2060	2.147	1.021	0.302	3.470
50	579624.50	4143333.25	0.00024	0.0175	0.0877	0.179	0.074	0.022	0.275
51	579627.75	4142944.75	0.00073	0.0565	0.2837	0.540	0.240	0.071	0.852
52	579629.00	4142750.50	0.00207	0.1700	0.8536	1.542	0.722	0.214	2.479
53	579635.44	4143166.25	0.00032	0.0241	0.1212	0.241	0.103	0.030	0.374
54	579638.44	4142778.00	0.00161	0.1302	0.6536	1.195	0.553	0.164	1.912
55	579643.38	4143388.00	0.00021	0.0157	0.0788	0.159	0.067	0.020	0.246
56	579646.38	4142999.50	0.00055	0.0417	0.2092	0.406	0.177	0.052	0.636
57	579647.88	4142805.25	0.00130	0.1044	0.5242	0.969	0.444	0.131	1.544
58	579654.31	4143221.25	0.00028	0.0207	0.1039	0.210	0.088	0.026	0.324
59	579657.31	4142832.75	0.00108	0.0860	0.4318	0.805	0.366	0.108	1.279
60	579665.25	4143054.50	0.00043	0.0322	0.1619	0.319	0.137	0.041	0.496
61	579666.75	4142860.25	0.00092	0.0721	0.3621	0.682	0.306	0.091	1.079
62	579668.25	4142666.00	0.00292	0.2441	1.2259	2.175	1.038	0.307	3.520
63	579673.19	4143276.00	0.00025	0.0182	0.0913	0.185	0.077	0.023	0.285
64	579676.76	4142887.75	0.00078	0.0613	0.3077	0.582	0.260	0.077	0.920
65	579677.69	4142693.50	0.00211	0.1739	0.8733	1.572	0.739	0.219	2.530
66	579684.12	4143109.25	0.00035	0.0261	0.1310	0.259	0.111	0.033	0.403
67	579687.12	4142720.75	0.00165	0.1344	0.6750	1.230	0.571	0.169	1.970
68	579692.06	4143331.00	0.00022	0.0162	0.0815	0.165	0.069	0.020	0.255
69	579695.06	4142942.50	0.00059	0.0458	0.2297	0.442	0.194	0.058	0.694

70	579696.56	4142748.25	0.00135	0.1086	0.5451	1.003	0.461	0.137	1.601
71	579703.00	4143164.25	0.00029	0.0219	0.1102	0.219	0.093	0.028	0.340
72	579706.00	4142775.75	0.00113	0.0901	0.4526	0.838	0.383	0.113	1.335
73	579713.94	4142997.50	0.00046	0.0355	0.1781	0.345	0.151	0.045	0.541
74	579715.44	4142803.25	0.00096	0.0762	0.3826	0.715	0.324	0.096	1.134
75	579717.06	4142609.00	0.00295	0.2474	1.2422	2.199	1.051	0.311	3.561
76	579721.88	4143219.00	0.00026	0.0191	0.0957	0.191	0.081	0.024	0.296
77	579724.88	4142830.50	0.00083	0.0653	0.3280	0.616	0.278	0.082	0.976
78	579726.44	4142636.50	0.00215	0.1771	0.8892	1.599	0.753	0.223	2.574
79	579729.81	4143440.75	0.00018	0.0134	0.0673	0.137	0.057	0.017	0.211
80	579732.81	4143052.25	0.00038	0.0285	0.1430	0.283	0.121	0.036	0.440
81	579735.88	4142663.75	0.00169	0.1378	0.6921	1.256	0.586	0.173	2.016
82	579740.75	4143274.00	0.00023	0.0169	0.0848	0.171	0.072	0.021	0.264
83	579743.75	4142885.50	0.00063	0.0494	0.2481	0.472	0.210	0.062	0.744
84	579745.31	4142691.25	0.00138	0.1120	0.5622	1.029	0.476	0.141	1.645
85	579751.69	4143107.25	0.00032	0.0236	0.1185	0.235	0.100	0.030	0.365
86	579754.75	4142718.75	0.00116	0.0935	0.4695	0.865	0.397	0.118	1.380
87	579762.69	4142940.50	0.00050	0.0386	0.1939	0.374	0.164	0.049	0.586
88	579764.19	4142746.25	0.00100	0.0796	0.3996	0.743	0.338	0.100	1.181
89	579765.88	4142552.00	0.00300	0.2514	1.2624	2.234	1.068	0.316	3.619
90	579770.56	4143162.00	0.00027	0.0202	0.1013	0.201	0.086	0.025	0.312
91	579773.62	4142773.50	0.00086	0.0687	0.3451	0.643	0.292	0.086	1.022
92	579775.31	4142579.50	0.00219	0.1809	0.9086	1.629	0.769	0.228	2.625
93	579781.56	4142995.25	0.00041	0.0310	0.1558	0.302	0.132	0.039	0.473
94	579784.75	4142607.00	0.00172	0.1410	0.7082	1.283	0.599	0.178	2.060
95	579789.50	4143217.00	0.00024	0.0177	0.0887	0.176	0.075	0.022	0.273
96	579792.50	4142828.50	0.00067	0.0527	0.2644	0.500	0.224	0.066	0.790
97	579794.12	4142634.25	0.00141	0.1150	0.5775	1.052	0.489	0.145	1.686
98	579794.75	4143364.75	0.00019	0.0139	0.0700	0.140	0.059	0.018	0.217
99	579800.44	4143050.25	0.00034	0.0256	0.1283	0.253	0.109	0.032	0.394
100	579803.56	4142661.75	0.00120	0.0964	0.4843	0.890	0.410	0.121	1.421
101	579811.38	4142883.25	0.00054	0.0415	0.2084	0.400	0.176	0.052	0.629
102	579812.94	4142689.25	0.00103	0.0825	0.4144	0.767	0.351	0.104	1.221
103	579814.75	4142495.25	0.00306	0.2558	1.2845	2.275	1.087	0.322	3.684
104	579819.31	4143105.00	0.00029	0.0216	0.1085	0.213	0.092	0.027	0.332
105	579822.38	4142716.50	0.00090	0.0716	0.3597	0.670	0.304	0.090	1.064
106	579824.19	4142522.50	0.00223	0.1847	0.9273	1.661	0.785	0.232	2.679
107	579830.25	4142938.25	0.00044	0.0335	0.1681	0.325	0.142	0.042	0.509
108	579832.50	4143474.50	0.00016	0.0118	0.0591	0.118	0.050	0.015	0.182
109	579833.56	4142550.00	0.00176	0.1442	0.7239	1.308	0.613	0.181	2.103
110	579838.19	4143160.00	0.00025	0.0187	0.0939	0.186	0.079	0.024	0.289
111	579841.19	4142771.50	0.00070	0.0555	0.2784	0.524	0.236	0.070	0.829
112	579843.00	4142577.50	0.00145	0.1180	0.5923	1.078	0.501	0.148	1.727
113	579849.12	4142993.00	0.00037	0.0276	0.1387	0.272	0.117	0.035	0.425
114	579852.38	4142604.75	0.00123	0.0994	0.4992	0.915	0.423	0.125	1.463
115	579859.69	4143288.75	0.00020	0.0146	0.0734	0.147	0.062	0.018	0.228
116	579860.06	4142826.25	0.00057	0.0442	0.2218	0.421	0.188	0.056	0.665
117	579861.81	4142632.25	0.00106	0.0853	0.4283	0.790	0.363	0.107	1.260
118	579866.62	4142441.00	0.00301	0.2511	1.2610	2.240	1.067	0.316	3.624
119	579868.00	4143048.00	0.00031	0.0232	0.1166	0.228	0.099	0.029	0.356
120	579870.25	4143584.25	0.00014	0.0102	0.0510	0.103	0.043	0.013	0.159
121	579871.25	4142659.75	0.00093	0.0742	0.3726	0.691	0.315	0.093	1.100
122	579875.38	4142468.00	0.00223	0.1838	0.9230	1.657	0.781	0.231	2.669
123	579878.94	4142881.25	0.00047	0.0358	0.1800	0.347	0.152	0.045	0.544
124	579884.12	4142494.75	0.00178	0.1459	0.7327	1.328	0.620	0.184	2.132
125	579886.88	4143103.00	0.00027	0.0199	0.1000	0.198	0.085	0.025	0.308
126	579890.06	4142714.50	0.00073	0.0580	0.2911	0.545	0.246	0.073	0.864
127	579892.88	4142521.50	0.00148	0.1207	0.6060	1.102	0.513	0.152	1.766
128	579897.44	4143398.50	0.00017	0.0122	0.0613	0.124	0.052	0.015	0.191
129	579897.81	4142936.00	0.00039	0.0296	0.1488	0.290	0.126	0.037	0.454
130	579901.62	4142548.25	0.00126	0.1024	0.5141	0.941	0.435	0.129	1.505
131	579908.88	4142769.25	0.00059	0.0466	0.2338	0.442	0.198	0.059	0.699
132	579910.62	4142575.25	0.00110	0.0883	0.4435	0.816	0.375	0.111	1.302
133	579916.69	4142991.00	0.00033	0.0249	0.1251	0.246	0.106	0.031	0.383
134	579919.56	4142388.00	0.00302	0.2509	1.2599	2.246	1.066	0.316	3.628
135	579920.06	4142602.75	0.00096	0.0771	0.3870	0.715	0.328	0.097	1.139
136	579924.62	4143212.75	0.00021	0.0155	0.0778	0.155	0.066	0.019	0.240
137	579927.69	4142824.25	0.00049	0.0381	0.1911	0.365	0.162	0.048	0.574
138	579927.88	4142414.25	0.00225	0.1850	0.9292	1.673	0.786	0.233	2.693
139	579935.25	4143508.25	0.00014	0.0105	0.0525	0.106	0.044	0.013	0.163
140	579935.56	4143045.75	0.00028	0.0213	0.1069	0.210	0.090	0.027	0.327
141	579936.56	4142441.00	0.00179	0.1464	0.7350	1.334	0.622	0.184	2.140
142	579938.88	4142657.50	0.00076	0.0606	0.3041	0.567	0.257	0.076	0.901
143	579945.31	4142468.00	0.00148	0.1208	0.6067	1.105	0.514	0.152	1.770
144	579946.56	4142879.00	0.00041	0.0316	0.1586	0.305	0.134	0.040	0.479
145	579954.06	4142494.75	0.00127	0.1027	0.5157	0.945	0.436	0.129	1.511
146	579957.75	4142712.50	0.00062	0.0488	0.2451	0.461	0.207	0.061	0.730
147	579962.44	4143322.50	0.00017	0.0127	0.0639	0.127	0.054	0.016	0.197
148	579962.81	4142521.50	0.00111	0.0891	0.4473	0.823	0.379	0.112	1.314
149	579965.44	4142934.00	0.00035	0.0266	0.1336	0.259	0.113	0.033	0.406

150	579971.56	4142548.25	0.00098	0.0784	0.3937	0.728	0.333	0.099	1.160
151	579973.00	4143618.00	0.00013	0.0091	0.0459	0.094	0.039	0.011	0.144
152	579974.56	4142337.00	0.00298	0.2466	1.2382	2.215	1.048	0.310	3.573
153	579976.56	4142767.25	0.00051	0.0401	0.2012	0.383	0.170	0.050	0.603
154	579982.88	4142363.25	0.00221	0.1816	0.9119	1.645	0.772	0.229	2.645
155	579984.31	4142988.75	0.00030	0.0227	0.1142	0.223	0.097	0.029	0.349
156	579989.06	4142602.00	0.00079	0.0624	0.3132	0.585	0.265	0.079	0.929
157	579989.56	4143136.50	0.00022	0.0166	0.0834	0.165	0.071	0.021	0.257
158	579991.19	4142389.75	0.00177	0.1445	0.7254	1.319	0.614	0.182	2.115
159	579995.38	4142822.25	0.00043	0.0334	0.1677	0.323	0.142	0.042	0.507
160	579999.50	4142416.00	0.00148	0.1204	0.6044	1.105	0.512	0.151	1.768
161	580000.19	4143432.25	0.00015	0.0108	0.0543	0.110	0.046	0.014	0.170
162	580006.56	4142655.50	0.00064	0.0509	0.2558	0.479	0.217	0.064	0.760
163	580007.88	4142442.50	0.00127	0.1027	0.5159	0.945	0.437	0.129	1.511
164	580014.19	4142877.00	0.00037	0.0282	0.1418	0.274	0.120	0.036	0.429
165	580016.19	4142468.75	0.00111	0.0894	0.4492	0.826	0.380	0.113	1.319
166	580024.50	4142495.25	0.00098	0.0789	0.3963	0.732	0.335	0.099	1.167
167	580025.38	4142710.50	0.00054	0.0421	0.2112	0.400	0.179	0.053	0.632
168	580027.38	4143246.25	0.00018	0.0134	0.0672	0.134	0.057	0.017	0.208
169	580030.31	4142286.75	0.00295	0.2439	1.2247	2.196	1.037	0.307	3.539
170	580033.00	4142931.75	0.00032	0.0242	0.1214	0.235	0.103	0.030	0.368
171	580037.94	4143542.00	0.00013	0.0094	0.0471	0.095	0.040	0.012	0.147
172	580038.50	4142313.00	0.00219	0.1797	0.9025	1.633	0.764	0.226	2.623
173	580041.50	4142548.25	0.00079	0.0633	0.3176	0.591	0.269	0.080	0.939
174	580044.25	4142765.25	0.00045	0.0352	0.1769	0.338	0.150	0.044	0.532
175	580046.69	4142339.25	0.00176	0.1431	0.7184	1.308	0.608	0.180	2.097
176	580054.50	4143060.50	0.00024	0.0180	0.0902	0.176	0.076	0.023	0.275
177	580054.88	4142365.50	0.00147	0.1192	0.5983	1.093	0.506	0.150	1.749
178	580059.00	4142602.00	0.00066	0.0520	0.2613	0.490	0.221	0.065	0.776
179	580063.00	4142391.75	0.00126	0.1021	0.5125	0.941	0.434	0.128	1.503
180	580063.06	4142820.00	0.00039	0.0299	0.1499	0.290	0.127	0.038	0.455
181	580065.12	4143356.25	0.00015	0.0112	0.0564	0.112	0.048	0.014	0.174
182	580071.19	4142417.75	0.00111	0.0891	0.4476	0.823	0.379	0.112	1.314
183	580076.50	4142655.50	0.00056	0.0435	0.2183	0.414	0.185	0.055	0.653
184	580079.50	4142444.25	0.00098	0.0788	0.3957	0.731	0.335	0.099	1.165
185	580081.88	4142875.00	0.00033	0.0256	0.1284	0.247	0.109	0.032	0.388
186	580086.25	4142236.75	0.00295	0.2439	1.2245	2.199	1.036	0.307	3.542
187	580092.31	4143170.25	0.00019	0.0142	0.0714	0.141	0.060	0.018	0.220
188	580094.00	4142709.25	0.00047	0.0368	0.1845	0.351	0.156	0.046	0.554
189	580094.44	4142263.00	0.00219	0.1794	0.9009	1.631	0.763	0.226	2.620
190	580096.12	4142497.00	0.00080	0.0636	0.3191	0.594	0.270	0.080	0.944
191	580102.56	4142289.25	0.00176	0.1428	0.7171	1.307	0.607	0.180	2.094
192	580102.88	4143466.00	0.00013	0.0097	0.0486	0.097	0.041	0.012	0.150
193	580110.75	4142315.50	0.00147	0.1189	0.5970	1.091	0.505	0.150	1.746
194	580111.88	4142763.25	0.00041	0.0314	0.1575	0.304	0.133	0.039	0.476
195	580112.81	4142549.75	0.00066	0.0526	0.2643	0.494	0.224	0.066	0.784
196	580118.94	4142341.75	0.00126	0.1017	0.5109	0.938	0.432	0.128	1.498
197	580119.50	4142984.50	0.00025	0.0194	0.0973	0.189	0.082	0.024	0.296
198	580127.12	4142368.00	0.00110	0.0888	0.4460	0.822	0.377	0.112	1.311
199	580129.44	4142602.50	0.00056	0.0443	0.2226	0.420	0.188	0.056	0.664
200	580130.06	4143280.00	0.00016	0.0118	0.0590	0.118	0.050	0.015	0.182
201	580130.75	4142818.00	0.00035	0.0270	0.1354	0.262	0.115	0.034	0.411
202	580135.31	4142394.00	0.00098	0.0787	0.3953	0.731	0.335	0.099	1.165
203	580142.12	4142186.75	0.00295	0.2437	1.2239	2.197	1.036	0.307	3.540
204	580146.44	4142655.50	0.00048	0.0378	0.1897	0.359	0.161	0.048	0.567
205	580150.31	4142213.00	0.00219	0.1792	0.8999	1.630	0.762	0.226	2.617
206	580151.69	4142446.50	0.00080	0.0636	0.3195	0.594	0.270	0.080	0.944
207	580157.25	4143094.25	0.00020	0.0152	0.0765	0.150	0.065	0.019	0.234
208	580158.50	4142239.25	0.00175	0.1425	0.7156	1.304	0.606	0.179	2.089
209	580163.94	4142709.25	0.00042	0.0324	0.1628	0.311	0.138	0.041	0.490
210	580166.69	4142265.50	0.00146	0.1185	0.5952	1.090	0.504	0.149	1.743
211	580167.81	4143389.75	0.00013	0.0100	0.0504	0.100	0.043	0.013	0.155
212	580168.06	4142499.00	0.00067	0.0529	0.2656	0.497	0.225	0.067	0.789
213	580174.88	4142291.75	0.00126	0.1016	0.5099	0.936	0.432	0.128	1.496
214	580181.44	4142762.75	0.00036	0.0281	0.1411	0.271	0.119	0.035	0.426
215	580183.06	4142318.00	0.00110	0.0887	0.4452	0.819	0.377	0.112	1.307
216	580184.44	4142551.50	0.00057	0.0448	0.2250	0.423	0.190	0.056	0.670
217	580184.62	4142908.75	0.00027	0.0208	0.1046	0.204	0.089	0.026	0.319
218	580191.25	4142344.00	0.00098	0.0786	0.3948	0.729	0.334	0.099	1.162
219	580195.00	4143204.00	0.00017	0.0124	0.0623	0.124	0.053	0.016	0.192
220	580198.06	4142136.75	0.00295	0.2439	1.2247	2.197	1.037	0.307	3.541
221	580201.06	4142604.25	0.00049	0.0384	0.1928	0.365	0.163	0.048	0.576
222	580206.25	4142163.00	0.00219	0.1793	0.9004	1.630	0.762	0.226	2.618
223	580207.62	4142396.50	0.00080	0.0636	0.3196	0.594	0.270	0.080	0.945
224	580214.44	4142189.25	0.00176	0.1427	0.7166	1.307	0.607	0.180	2.093
225	580217.75	4142657.00	0.00043	0.0332	0.1666	0.317	0.141	0.042	0.500
226	580222.31	4143018.25	0.00022	0.0163	0.0820	0.161	0.069	0.021	0.251
227	580222.62	4142215.50	0.00147	0.1188	0.5965	1.091	0.505	0.150	1.746
228	580223.94	4142449.00	0.00067	0.0531	0.2664	0.497	0.226	0.067	0.789
229	580230.81	4142241.75	0.00126	0.1016	0.5104	0.938	0.432	0.128	1.498

230	580232.75	4143313.75	0.00014	0.0105	0.0525	0.104	0.044	0.013	0.162
231	580234.38	4142709.75	0.00037	0.0289	0.1452	0.278	0.123	0.036	0.438
232	580239.00	4142268.00	0.00110	0.0887	0.4454	0.820	0.377	0.112	1.309
233	580240.31	4142501.50	0.00057	0.0451	0.2264	0.424	0.192	0.057	0.673
234	580247.19	4142294.25	0.00098	0.0786	0.3945	0.729	0.334	0.099	1.162
235	580251.38	4142834.25	0.00029	0.0221	0.1111	0.216	0.094	0.028	0.338
236	580254.00	4142086.75	0.00296	0.2443	1.2268	2.203	1.038	0.308	3.549
237	580256.69	4142553.75	0.00049	0.0388	0.1949	0.368	0.165	0.049	0.582
238	580259.94	4143128.00	0.00018	0.0132	0.0662	0.132	0.056	0.017	0.205
239	580262.19	4142113.00	0.00220	0.1798	0.9027	1.637	0.764	0.226	2.628
240	580263.50	4142346.50	0.00080	0.0638	0.3204	0.595	0.271	0.080	0.947
241	580270.38	4142139.25	0.00176	0.1431	0.7187	1.310	0.608	0.180	2.098
242	580273.06	4142606.25	0.00043	0.0337	0.1693	0.323	0.143	0.042	0.509
243	580278.56	4142165.50	0.00147	0.1192	0.5983	1.096	0.506	0.150	1.752
244	580279.88	4142399.00	0.00067	0.0533	0.2676	0.500	0.226	0.067	0.794
245	580286.75	4142191.75	0.00126	0.1020	0.5123	0.941	0.434	0.128	1.503
246	580287.44	4142942.50	0.00023	0.0174	0.0876	0.171	0.074	0.022	0.267
247	580289.44	4142658.75	0.00038	0.0295	0.1482	0.283	0.125	0.037	0.445
248	580294.88	4142218.00	0.00111	0.0891	0.4473	0.823	0.379	0.112	1.314
249	580296.25	4142451.50	0.00057	0.0453	0.2275	0.427	0.193	0.057	0.677
250	580297.69	4143237.75	0.00015	0.0110	0.0551	0.110	0.047	0.014	0.171
251	580303.06	4142244.25	0.00098	0.0789	0.3963	0.732	0.335	0.099	1.167
252	580309.94	4142037.00	0.00295	0.2440	1.2253	2.199	1.037	0.307	3.543
253	580312.62	4142504.00	0.00050	0.0391	0.1962	0.371	0.166	0.049	0.586
254	580318.06	4142063.00	0.00220	0.1801	0.9046	1.639	0.766	0.227	2.631
255	580319.44	4142296.50	0.00080	0.0640	0.3214	0.595	0.272	0.081	0.948
256	580322.69	4142764.25	0.00030	0.0230	0.1156	0.222	0.098	0.029	0.349
257	580325.06	4143052.25	0.00019	0.0140	0.0705	0.140	0.060	0.018	0.217
258	580326.25	4142089.25	0.00176	0.1435	0.7203	1.311	0.610	0.181	2.102
259	580329.00	4142556.25	0.00044	0.0341	0.1712	0.325	0.145	0.043	0.512
260	580334.44	4142115.50	0.00147	0.1195	0.6001	1.097	0.508	0.150	1.755
261	580335.81	4142349.00	0.00067	0.0535	0.2684	0.500	0.227	0.067	0.795
262	580342.62	4142141.75	0.00127	0.1024	0.5142	0.944	0.435	0.129	1.508
263	580345.31	4142608.75	0.00039	0.0299	0.1504	0.287	0.127	0.038	0.452
264	580350.81	4142168.00	0.00111	0.0895	0.4492	0.826	0.380	0.113	1.319
265	580352.19	4142401.50	0.00058	0.0456	0.2288	0.429	0.194	0.057	0.680
266	580356.31	4142870.00	0.00024	0.0184	0.0922	0.180	0.078	0.023	0.281
267	580359.00	4142194.25	0.00099	0.0793	0.3980	0.734	0.337	0.100	1.170
268	580362.75	4143161.75	0.00015	0.0116	0.0581	0.115	0.049	0.015	0.178
269	580365.81	4141987.00	0.00296	0.2445	1.2278	2.203	1.039	0.308	3.550
270	580368.56	4142454.00	0.00050	0.0394	0.1978	0.372	0.167	0.050	0.589
271	580374.00	4142013.25	0.00220	0.1802	0.9047	1.639	0.766	0.227	2.631
272	580375.38	4142246.50	0.00080	0.0643	0.3229	0.598	0.273	0.081	0.953
273	580382.19	4142039.25	0.00177	0.1438	0.7221	1.316	0.611	0.181	2.108
274	580384.88	4142506.25	0.00044	0.0344	0.1727	0.326	0.146	0.043	0.516
275	580390.38	4142065.50	0.00148	0.1198	0.6017	1.100	0.509	0.151	1.760
276	580391.31	4142977.25	0.00019	0.0149	0.0747	0.144	0.063	0.019	0.226
277	580391.75	4142299.00	0.00068	0.0537	0.2698	0.503	0.228	0.068	0.799
278	580396.69	4142697.00	0.00031	0.0237	0.1189	0.229	0.101	0.030	0.360
279	580398.56	4142091.75	0.00127	0.1027	0.5156	0.945	0.436	0.129	1.511
280	580401.25	4142558.75	0.00039	0.0303	0.1521	0.289	0.129	0.038	0.456
281	580406.75	4142118.00	0.00112	0.0897	0.4506	0.831	0.381	0.113	1.325
282	580408.06	4142351.50	0.00058	0.0458	0.2302	0.432	0.195	0.058	0.684
283	580414.94	4142144.25	0.00099	0.0796	0.3996	0.737	0.338	0.100	1.175
284	580421.75	4141937.00	0.00296	0.2449	1.2295	2.206	1.041	0.308	3.555
285	580424.44	4142404.00	0.00050	0.0397	0.1993	0.374	0.169	0.050	0.592
286	580427.88	4143086.00	0.00016	0.0122	0.0615	0.122	0.052	0.015	0.189
287	580429.44	4142801.75	0.00025	0.0190	0.0955	0.185	0.081	0.024	0.289
288	580429.94	4141963.25	0.00220	0.1805	0.9063	1.640	0.767	0.227	2.635
289	580431.31	4142196.75	0.00081	0.0646	0.3245	0.601	0.275	0.081	0.957
290	580438.12	4141989.25	0.00177	0.1441	0.7237	1.317	0.613	0.181	2.111
291	580440.81	4142456.25	0.00044	0.0347	0.1744	0.329	0.148	0.044	0.520
292	580446.31	4142015.50	0.00148	0.1201	0.6032	1.103	0.511	0.151	1.765
293	580447.62	4142249.00	0.00068	0.0541	0.2716	0.505	0.230	0.068	0.803
294	580454.50	4142041.75	0.00128	0.1030	0.5173	0.950	0.438	0.130	1.517
295	580457.19	4142508.75	0.00039	0.0306	0.1538	0.292	0.130	0.039	0.461
296	580462.62	4142907.25	0.00020	0.0155	0.0780	0.152	0.066	0.020	0.237
297	580462.69	4142068.00	0.00112	0.0901	0.4523	0.832	0.383	0.113	1.328
298	580464.00	4142301.50	0.00058	0.0461	0.2317	0.433	0.196	0.058	0.687
299	580470.88	4142094.25	0.00100	0.0799	0.4013	0.741	0.340	0.101	1.182
300	580471.25	4142630.25	0.00031	0.0242	0.1214	0.232	0.103	0.030	0.365
301	580477.69	4141887.00	0.00297	0.2452	1.2312	2.208	1.042	0.309	3.558
302	580480.38	4142354.00	0.00051	0.0400	0.2006	0.378	0.170	0.050	0.598
303	580485.88	4141913.25	0.00221	0.1808	0.9081	1.645	0.769	0.228	2.641
304	580487.19	4142146.75	0.00081	0.0650	0.3262	0.604	0.276	0.082	0.962
305	580494.06	4141939.50	0.00177	0.1442	0.7243	1.317	0.613	0.182	2.112
306	580496.25	4143013.00	0.00017	0.0129	0.0646	0.127	0.055	0.016	0.197
307	580496.75	4142406.50	0.00045	0.0350	0.1758	0.332	0.149	0.044	0.525
308	580502.25	4141965.50	0.00148	0.1204	0.6047	1.105	0.512	0.152	1.768
309	580503.56	4142199.00	0.00068	0.0544	0.2732	0.509	0.231	0.068	0.809

310	580504.00	4142735.25	0.00025	0.0195	0.0980	0.189	0.083	0.025	0.297
311	580510.44	4141991.75	0.00128	0.1032	0.5184	0.950	0.439	0.130	1.518
312	580513.12	4142458.75	0.00040	0.0310	0.1554	0.295	0.132	0.039	0.465
313	580518.56	4142018.00	0.00112	0.0903	0.4532	0.832	0.384	0.114	1.329
314	580519.94	4142251.50	0.00059	0.0465	0.2334	0.436	0.198	0.058	0.692
315	580526.75	4142044.25	0.00100	0.0801	0.4021	0.741	0.340	0.101	1.182
316	580533.62	4141837.00	0.00297	0.2454	1.2321	2.209	1.043	0.309	3.561
317	580536.31	4142304.00	0.00051	0.0403	0.2023	0.380	0.171	0.051	0.6015
318	580536.75	4142840.00	0.00021	0.0160	0.0804	0.158	0.068	0.020	0.246
319	580541.75	4141863.25	0.00221	0.1812	0.9097	1.645	0.770	0.228	2.643
320	580543.12	4142096.75	0.00081	0.0652	0.3272	0.606	0.277	0.082	0.965
321	580545.81	4142563.75	0.00032	0.0246	0.1237	0.235	0.105	0.031	0.371
322	580549.94	4141889.50	0.00177	0.1446	0.7261	1.320	0.615	0.182	2.117
323	580552.69	4142356.50	0.00045	0.0353	0.1772	0.333	0.150	0.044	0.528
324	580558.12	4141915.75	0.00149	0.1207	0.6059	1.106	0.513	0.152	1.771
325	580559.50	4142149.00	0.00069	0.0547	0.2745	0.511	0.232	0.069	0.812
326	580566.31	4141941.75	0.00128	0.1036	0.5203	0.953	0.440	0.130	1.524
327	580569.00	4142408.75	0.00040	0.0312	0.1568	0.296	0.133	0.039	0.468
328	580569.44	4142945.00	0.00017	0.0133	0.0669	0.130	0.057	0.017	0.203
329	580574.50	4141968.00	0.00112	0.0906	0.4550	0.837	0.385	0.114	1.336
330	580575.88	4142201.50	0.00059	0.0467	0.2347	0.438	0.199	0.059	0.695
331	580578.56	4142668.50	0.00026	0.0200	0.1003	0.195	0.085	0.025	0.305
332	580582.69	4141994.25	0.00100	0.0804	0.4036	0.741	0.342	0.101	1.184
333	580589.50	4141787.00	0.00297	0.2459	1.2346	2.212	1.045	0.309	3.566
334	580592.25	4142254.00	0.00051	0.0405	0.2036	0.381	0.172	0.051	0.604
335	580597.69	4141813.25	0.00222	0.1815	0.9113	1.649	0.771	0.228	2.649
336	580599.06	4142046.75	0.00082	0.0654	0.3282	0.607	0.278	0.082	0.967
337	580605.88	4141839.50	0.00177	0.1448	0.7273	1.320	0.616	0.182	2.118
338	580608.56	4142306.50	0.00045	0.0356	0.1787	0.336	0.151	0.045	0.532
339	580611.31	4142773.50	0.00021	0.0164	0.0825	0.158	0.070	0.021	0.248
340	580614.06	4141865.75	0.00149	0.1208	0.6068	1.108	0.514	0.152	1.773
341	580615.44	4142099.25	0.00069	0.0548	0.2753	0.511	0.233	0.069	0.813
342	580620.38	4142497.00	0.00032	0.0250	0.1258	0.240	0.106	0.032	0.378
343	580622.25	4141891.75	0.00128	0.1038	0.5213	0.953	0.441	0.131	1.525
344	580624.94	4142358.75	0.00040	0.0315	0.1583	0.299	0.134	0.040	0.473
345	580630.44	4141918.00	0.00112	0.0909	0.4562	0.837	0.386	0.114	1.337
346	580631.75	4142151.50	0.00059	0.0470	0.2359	0.439	0.200	0.059	0.698
347	580638.62	4141944.25	0.00100	0.0807	0.4052	0.747	0.343	0.102	1.192
348	580644.00	4142878.25	0.00018	0.0137	0.0688	0.134	0.058	0.017	0.209
349	580645.44	4141737.00	0.00298	0.2462	1.2364	2.215	1.046	0.310	3.571
350	580648.12	4142204.00	0.00052	0.0408	0.2049	0.384	0.173	0.051	0.609
351	580653.12	4142602.00	0.00026	0.0204	0.1024	0.196	0.087	0.026	0.309
352	580653.62	4141763.25	0.00221	0.1816	0.9117	1.648	0.772	0.229	2.648
353	580655.00	4141996.75	0.00082	0.0657	0.3298	0.610	0.279	0.083	0.972
354	580661.81	4141789.50	0.00177	0.1449	0.7274	1.320	0.616	0.182	2.118
355	580664.50	4142256.50	0.00045	0.0358	0.1799	0.338	0.152	0.045	0.535
356	580670.00	4141815.75	0.00149	0.1210	0.6075	1.108	0.514	0.152	1.774
357	580671.31	4142049.25	0.00069	0.0551	0.2767	0.512	0.234	0.069	0.816
358	580678.19	4141842.00	0.00128	0.1039	0.5218	0.954	0.442	0.131	1.527
359	580680.88	4142309.00	0.00041	0.0318	0.1595	0.302	0.135	0.040	0.477
360	580685.88	4142706.75	0.00022	0.0168	0.0845	0.162	0.072	0.021	0.255
361	580686.38	4141868.00	0.00113	0.0911	0.4573	0.838	0.387	0.115	1.340
362	580687.69	4142101.50	0.00059	0.0472	0.2371	0.441	0.201	0.059	0.701
363	580694.56	4141894.25	0.00100	0.0809	0.4062	0.747	0.344	0.102	1.193
364	580694.94	4142430.50	0.00033	0.0254	0.1276	0.243	0.108	0.032	0.383
365	580701.38	4141687.00	0.00297	0.2461	1.2359	2.214	1.046	0.310	3.569
366	580704.06	4142154.00	0.00052	0.0410	0.2060	0.386	0.174	0.052	0.612
367	580709.56	4141713.25	0.00222	0.1818	0.9127	1.649	0.773	0.229	2.651
368	580710.88	4141946.75	0.00082	0.0660	0.3312	0.610	0.280	0.083	0.974
369	580717.75	4141739.50	0.00178	0.1453	0.7295	1.325	0.617	0.183	2.125
370	580718.56	4142811.75	0.00019	0.0141	0.0706	0.138	0.060	0.018	0.216
371	580720.44	4142206.50	0.00046	0.0361	0.1811	0.339	0.153	0.045	0.538
372	580725.94	4141765.75	0.00149	0.1213	0.6091	1.110	0.516	0.153	1.779
373	580727.25	4141999.25	0.00069	0.0554	0.2781	0.517	0.235	0.070	0.822
374	580727.69	4142535.25	0.00027	0.0208	0.1042	0.199	0.088	0.026	0.314
375	580734.06	4141792.00	0.00128	0.1041	0.5226	0.956	0.442	0.131	1.529
376	580736.81	4142259.00	0.00041	0.0320	0.1608	0.302	0.136	0.040	0.479
377	580742.25	4141818.25	0.00113	0.0911	0.4574	0.838	0.387	0.115	1.340
378	580743.62	4142051.75	0.00060	0.0475	0.2384	0.444	0.202	0.060	0.705
379	580750.44	4141844.25	0.00100	0.0810	0.4068	0.747	0.344	0.102	1.194
380	580757.31	4141637.00	0.00297	0.2462	1.2364	2.214	1.046	0.310	3.570
381	580760.00	4142104.00	0.00052	0.0413	0.2074	0.387	0.176	0.052	0.615
382	580760.44	4142640.25	0.00022	0.0172	0.0864	0.165	0.073	0.022	0.260
383	580765.50	4141663.25	0.00222	0.1819	0.9132	1.649	0.773	0.229	2.651
384	580766.81	4141896.75	0.00082	0.0661	0.3320	0.610	0.281	0.083	0.975
385	580769.50	4142363.75	0.00033	0.0258	0.1293	0.246	0.109	0.032	0.388
386	580773.62	4141689.50	0.00178	0.1453	0.7298	1.325	0.618	0.183	2.125
387	580776.38	4142156.50	0.00046	0.0363	0.1824	0.341	0.154	0.046	0.541
388	580781.81	4141715.75	0.00149	0.1214	0.6097	1.110	0.516	0.153	1.779
389	580783.19	4141949.25	0.00069	0.0556	0.2792	0.517	0.236	0.070	0.823

390	580790.00	4141742.00	0.00128	0.1043	0.5238	0.956	0.443	0.131	1.530
391	580792.75	4142209.00	0.00041	0.0323	0.1620	0.302	0.137	0.041	0.480
392	580793.12	4142745.00	0.00019	0.0144	0.0723	0.140	0.061	0.018	0.219
393	580798.19	4141768.25	0.00113	0.0914	0.4589	0.840	0.388	0.115	1.343
394	580799.56	4142001.75	0.00060	0.0477	0.2396	0.445	0.203	0.060	0.708
395	580802.25	4142468.75	0.00027	0.0211	0.1060	0.202	0.090	0.027	0.319
396	580806.38	4141794.25	0.00100	0.0813	0.4081	0.747	0.345	0.102	1.195
397	580813.25	4141587.25	0.00297	0.2463	1.2368	2.214	1.047	0.310	3.570
398	580815.94	4142054.00	0.00052	0.0416	0.2088	0.387	0.177	0.052	0.616
399	580821.44	4141613.25	0.00222	0.1822	0.9150	1.652	0.774	0.229	2.656
400	580822.75	4141846.75	0.00082	0.0663	0.3329	0.612	0.282	0.083	0.977
401	580829.62	4141639.50	0.00178	0.1456	0.7311	1.326	0.619	0.183	2.128
402	580832.25	4142106.50	0.00046	0.0366	0.1839	0.344	0.156	0.046	0.546
403	580835.00	4142573.50	0.00023	0.0175	0.0881	0.170	0.075	0.022	0.266
404	580837.75	4141665.75	0.00149	0.1217	0.6109	1.110	0.517	0.153	1.781
405	580839.12	4141899.25	0.00070	0.0558	0.2801	0.518	0.237	0.070	0.825
406	580844.06	4142297.25	0.00033	0.0261	0.1310	0.247	0.111	0.033	0.391
407	580845.94	4141692.00	0.00129	0.1045	0.5246	0.959	0.444	0.131	1.534
408	580848.62	4142159.00	0.00041	0.0326	0.1635	0.307	0.138	0.041	0.486
409	580854.12	4141718.25	0.00113	0.0915	0.4595	0.841	0.389	0.115	1.345
410	580855.50	4141951.75	0.00060	0.0480	0.2409	0.448	0.204	0.060	0.712
411	580862.31	4141744.50	0.00101	0.0814	0.4085	0.749	0.346	0.102	1.197
412	580867.69	4142678.25	0.00019	0.0147	0.0739	0.143	0.063	0.019	0.224
413	580869.19	4141537.25	0.00298	0.2470	1.2403	2.221	1.050	0.311	3.582
414	580871.81	4142004.00	0.00053	0.0419	0.2103	0.393	0.178	0.053	0.624
415	580876.81	4142402.00	0.00027	0.0215	0.1078	0.204	0.091	0.027	0.322
416	580877.38	4141563.50	0.00222	0.1822	0.9151	1.651	0.775	0.229	2.655
417	580878.69	4141796.75	0.00083	0.0665	0.3339	0.615	0.283	0.084	0.981
418	580885.56	4141589.50	0.00178	0.1454	0.7303	1.323	0.618	0.183	2.125
419	580888.19	4142056.50	0.00047	0.0369	0.1854	0.347	0.157	0.046	0.550
420	580893.75	4141615.75	0.00149	0.1215	0.6099	1.110	0.516	0.153	1.780
421	580895.00	4141849.25	0.00070	0.0560	0.2812	0.520	0.238	0.070	0.828
422	580901.94	4141642.00	0.00129	0.1045	0.5249	0.959	0.444	0.132	1.534
423	580904.56	4142109.00	0.00042	0.0328	0.1649	0.310	0.140	0.041	0.491
424	580909.56	4142506.75	0.00023	0.0179	0.0898	0.173	0.076	0.023	0.271
425	580910.06	4141668.25	0.00113	0.0917	0.4604	0.841	0.390	0.115	1.346
426	580911.38	4141901.75	0.00060	0.0482	0.2419	0.448	0.205	0.061	0.713
427	580918.25	4141694.50	0.00101	0.0816	0.4096	0.750	0.347	0.103	1.200
428	580918.62	4142230.50	0.00034	0.0265	0.1329	0.252	0.112	0.033	0.397
429	580925.12	4141487.25	0.00298	0.2472	1.2413	2.219	1.051	0.311	3.581
430	580927.75	4141954.25	0.00053	0.0421	0.2112	0.393	0.179	0.053	0.625
431	580933.31	4141513.50	0.00222	0.1825	0.9162	1.651	0.775	0.230	2.656
432	580934.62	4141747.00	0.00083	0.0667	0.3348	0.616	0.283	0.084	0.984
433	580941.50	4141539.75	0.00178	0.1458	0.7320	1.326	0.620	0.183	2.129
434	580942.25	4142611.75	0.00019	0.0150	0.0755	0.144	0.064	0.019	0.227
435	580944.12	4142006.50	0.00047	0.0372	0.1866	0.348	0.158	0.047	0.553
436	580949.69	4141566.00	0.00149	0.1217	0.6113	1.110	0.517	0.153	1.781
437	580951.00	4141799.25	0.00070	0.0562	0.2824	0.521	0.239	0.071	0.831
438	580951.38	4142335.25	0.00028	0.0218	0.1095	0.210	0.093	0.027	0.330
439	580957.88	4141592.00	0.00129	0.1047	0.5257	0.959	0.445	0.132	1.535
440	580960.50	4142059.00	0.00042	0.0331	0.1663	0.311	0.141	0.042	0.494
441	580966.06	4141618.25	0.00113	0.0918	0.4608	0.841	0.390	0.116	1.347
442	580967.31	4141851.75	0.00060	0.0484	0.2432	0.448	0.206	0.061	0.715
443	580974.25	4141644.50	0.00101	0.0817	0.4103	0.750	0.347	0.103	1.200
444	580981.00	4141437.25	0.00298	0.2473	1.2415	2.218	1.051	0.311	3.580
445	580983.69	4141904.25	0.00053	0.0423	0.2125	0.394	0.180	0.053	0.628
446	580984.12	4142440.25	0.00024	0.0182	0.0915	0.176	0.077	0.023	0.276
447	580989.25	4141463.50	0.00222	0.1823	0.9154	1.649	0.775	0.229	2.654
448	580990.56	4141697.00	0.00083	0.0669	0.3358	0.616	0.284	0.084	0.985
449	580993.19	4142163.75	0.00034	0.0268	0.1347	0.255	0.114	0.034	0.402
450	580997.44	4141489.75	0.00178	0.1455	0.7308	1.322	0.619	0.183	2.124
451	581000.06	4141956.50	0.00047	0.0374	0.1879	0.350	0.159	0.047	0.556
452	581005.62	4141516.00	0.00149	0.1217	0.6112	1.110	0.517	0.153	1.781
453	581006.94	4141749.25	0.00070	0.0565	0.2835	0.521	0.240	0.071	0.832
454	581013.81	4141542.25	0.00129	0.1048	0.5263	0.959	0.445	0.132	1.536
455	581016.44	4142009.00	0.00042	0.0334	0.1676	0.314	0.142	0.042	0.498
456	581016.81	4142545.00	0.00020	0.0154	0.0771	0.147	0.065	0.019	0.232
457	581022.00	4141568.25	0.00113	0.0921	0.4624	0.843	0.391	0.116	1.350
458	581023.25	4141801.75	0.00061	0.0487	0.2443	0.454	0.207	0.061	0.722
459	581025.94	4142268.75	0.00028	0.0221	0.1111	0.211	0.094	0.028	0.333
460	581030.19	4141594.50	0.00101	0.0820	0.4118	0.752	0.349	0.103	1.203
461	581036.75	4141387.00	0.00299	0.2482	1.2464	2.225	1.055	0.312	3.593
462	581039.62	4141854.25	0.00053	0.0426	0.2138	0.397	0.181	0.054	0.632
463	581044.94	4141413.25	0.00222	0.1831	0.9196	1.655	0.778	0.230	2.664
464	581046.50	4141647.00	0.00083	0.0672	0.3374	0.621	0.286	0.085	0.991
465	581053.19	4141439.50	0.00179	0.1466	0.7361	1.331	0.623	0.185	2.138
466	581056.00	4141906.75	0.00047	0.0377	0.1892	0.353	0.160	0.047	0.560
467	581058.69	4142373.50	0.00024	0.0185	0.0929	0.176	0.079	0.023	0.278
468	581061.38	4141465.75	0.00151	0.1227	0.6163	1.121	0.522	0.154	1.797
469	581062.88	4141699.50	0.00071	0.0568	0.2851	0.525	0.241	0.071	0.838

870	582708.69	4141219.50	0.00016	0.0132	0.0664	0.118	0.056	0.017	0.190
871	582709.75	4140855.00	0.00027	0.0228	0.1145	0.201	0.097	0.029	0.327
872	582723.38	4140903.00	0.00024	0.0204	0.1023	0.179	0.087	0.026	0.291
873	582735.88	4141316.00	0.00014	0.0115	0.0575	0.103	0.049	0.014	0.166
874	582736.94	4140951.25	0.00022	0.0184	0.0924	0.162	0.078	0.023	0.264
875	582750.50	4140999.25	0.00020	0.0168	0.0841	0.147	0.071	0.021	0.240
876	582763.44	4141413.25	0.00012	0.0100	0.0504	0.089	0.043	0.013	0.145
877	582777.62	4141095.50	0.00017	0.0142	0.0711	0.125	0.060	0.018	0.203
878	582804.75	4141191.75	0.00015	0.0122	0.0613	0.109	0.052	0.015	0.176
879	582831.88	4141288.00	0.00013	0.0107	0.0535	0.095	0.045	0.013	0.154
880	582859.00	4141384.25	0.00011	0.0094	0.0473	0.083	0.040	0.012	0.135
Max		0.003056	0.2558	1.2845	2.3	1.1	0.3	3.68	

North Bayshore Precise Plan, Redwood City, CA
 Highway 101 Traffic Modeling
 Vehicle PM_{2.5} and TOG TAC Concentrations

Receptor No.	2030					2030		
	Vehicle PM _{2.5}					Average Concentration ($\mu\text{g}/\text{m}^3$)	Exhaust	Evaporative
	Concentration ($\mu\text{g}/\text{m}^3$) x 1,000 Meteorological Data Year						TOG ($\mu\text{g}/\text{m}^3$)	TOG ($\mu\text{g}/\text{m}^3$)
UTM-X	UTM-Y	1968	1969	1970	1971	1972	1968-1972	
1	579327.31	4143065.25	313.59	292.34	253.97	214.99	283.39	0.2717
2	579336.75	4143092.5	196.26	194.05	169.7	121.86	171.7	0.1707
3	579346.19	4143120	146.99	149.9	130.26	88.63	126.99	0.1286
4	579355.62	4143147.5	119.7	123.81	107.03	71.71	102.98	0.1050
5	579376	4143008.25	430.67	382.08	324.64	339.55	404.62	0.3763
6	579385.44	4143035.5	271.53	245.91	209.94	198.16	249.2	0.2349
7	579394.88	4143063	188.37	176.54	152.39	126.76	168.82	0.1626
8	579404.31	4143090.5	142.23	138.32	120.07	89.9	125.09	0.1231
9	579413.75	4143118	115.27	115.17	99.84	70.33	100.14	0.1002
10	579423.19	4143145.25	97.96	99.6	85.97	58.82	84.47	0.0854
11	579424.69	4142951	491.95	433.05	367.89	404.17	468.09	0.4330
12	579432.62	4143172.75	85.58	88.06	75.64	51.05	73.5	0.0748
13	579434.12	4142978.5	326.11	289.58	244.33	256.73	305.46	0.2844
14	579443.56	4143006	233.55	209.84	177.47	174.6	215.51	0.2022
15	579451.5	4143227.75	68.88	71.84	61.33	40.89	58.84	0.0604
16	579453	4143033.5	175.92	161.06	137.29	124.14	159.66	0.1516
17	579462.5	4143061	138.06	129.72	111.43	92.17	123.29	0.1189
18	579471.94	4143088.25	112.95	109.01	94.02	72.1	99.59	0.0975
19	579473.44	4142894	525.77	461.35	392.92	439.54	503.88	0.4647
20	579481.38	4143115.75	95.62	94.35	81.46	59.09	83.42	0.0828
21	579482.88	4142921.5	359.57	317.6	267.82	292.19	339.95	0.3154
22	579492.31	4142949	265.85	236.16	198.28	209.16	248.69	0.2316
23	579500.25	4143170.75	74.29	75.42	64.78	44.44	63.86	0.0646
24	579501.75	4142976.5	205.23	183.69	154.37	155.4	189.98	0.1777
25	579511.19	4143003.75	163.23	147.85	124.88	118.46	149.38	0.1408
26	579519.12	4143225.5	61.41	63.47	54.06	36.4	52.38	0.0535
27	579520.62	4143031.25	132.72	122.28	103.99	92.15	119.91	0.1142
28	579522.12	4142837	548.23	480.15	409.72	462.92	528.16	0.4858
29	579530.06	4143058.75	110.47	103.83	88.84	73.55	98.51	0.0950
30	579531.56	4142864.5	381.68	336.24	283.9	315.5	363.12	0.3361
31	579538	4143280.5	52.5	54.87	46.49	31.04	44.66	0.0459
32	579541	4142892	287.47	254.31	213.3	232.31	270.92	0.2517
33	579548.94	4143113.5	82.1	80.24	69.04	51.24	71.76	0.0709
34	579550.44	4142919.5	226.21	200.99	168.03	178.04	211.5	0.1970
35	579559.88	4142946.75	182.98	163.55	136.76	139.75	169.77	0.1586
36	579567.81	4143168.5	65.91	66.22	56.83	39.7	56.75	0.0571
37	579569.31	4142974.25	150.63	135.79	113.94	111.24	138.5	0.1300
38	579570.81	4142780	563.64	492.95	421.32	479.09	545.13	0.5004
39	579578.75	4143001.75	126.08	114.93	96.98	89.83	114.7	0.1085
40	579580.25	4142807.5	397.41	349.59	295.69	331.79	379.79	0.3509
41	579586.69	4143223.5	55.53	56.82	48.44	32.96	47.35	0.0482
42	579589.75	4142835	303.07	267.66	224.67	248.63	287.01	0.2662
43	579597.62	4143056.5	92.59	87.02	74.24	61.49	82.38	0.0795
44	579599.19	4142862.25	241.9	214.24	178.9	194.76	227.44	0.2114
45	579605.56	4143278.25	48.16	49.91	42.28	28.44	40.89	0.0419
46	579608.62	4142889.75	197.89	175.81	146.46	155.96	184.95	0.1722
47	579616.5	4143111.5	72.16	70.11	60.12	45.33	63.09	0.0622
48	579618.06	4142917.25	164.81	147.02	122.55	126.71	153.05	0.1428
49	579619.56	4142723	574.76	502.2	429.64	490.93	557.65	0.5110
50	579624.5	4143333.25	42.56	44.49	37.53	25.08	36.04	0.0371
51	579627.5	4142944.75	139.28	124.93	104.48	104.09	128.3	0.1202
52	579629	4142750.5	408.89	359.3	304.26	343.84	392.17	0.3617
53	579635.44	4143166.25	59.43	59.2	50.77	36.04	51.25	0.0513
54	579638.44	4142778	314.52	277.22	233.12	260.73	299.05	0.2769
55	579643.38	4143388	38.18	40.14	33.8	22.47	32.28	0.0334
56	579646.38	4142995.5	103.22	94.32	79.66	72.61	93.37	0.0886
57	579647.88	4142805.25	253.37	223.79	187.23	206.91	239.28	0.2221
58	579654.31	4143221.25	50.85	51.53	44.01	30.27	43.39	0.0440
59	579657.31	4142832.75	209.58	185.59	154.7	168.28	196.78	0.1830
60	579665.25	4143054.5	79.95	75.04	63.92	53.04	70.97	0.0686
61	579666.75	4142860.25	176.4	156.66	130.34	139	164.76	0.1534
62	579668.25	4142666	583.49	509.14	436.2	500.42	567.93	0.5194
63	579673.19	4143276	44.59	45.78	38.88	26.32	37.81	0.0387
64	579676.19	4142887.75	150.47	133.99	111.53	116.13	139.72	0.1304
65	579677.69	4142693.5	417.62	366.26	310.83	353.31	402.22	0.3700
66	579684.12	4143109.25	64.54	62.37	53.38	40.79	56.46	0.0555
67	579687.12	414270.75	324.17	285.16	240.34	270.84	309.53	0.2860
68	579692.06	4143331	39.7	41.2	34.81	23.36	33.58	0.0345
69	579695.06	4142942.5	113.13	101.66	85.17	83.19	103.56	0.0973
70	579696.56	4142748.25	262.88	231.75	194.27	216.83	249.21	0.2310
71	579703	4143164.25	54.16	53.57	45.91	33.08	46.79	0.0467
72	579706	4142775.75	219.06	193.55	161.53	178.29	206.51	0.1918
73	579713.94	4142997.5	88.03	80.54	68.07	61.37	79.24	0.0755
74	579715.44	4142803.25	185.79	164.47	136.86	149.05	174.34	0.1621
75	579717.06	4142609	590.74	515.05	441.45	508.16	576.39	0.5264

796	582376.5	4141491.5	36.08	31.8	23.55	29.71	34.11	0.0311	0.01459	0.07328
797	582377.25	4141044.5	74.63	65.95	51.22	60.97	70.09	0.0646	0.03035	0.15239
798	582382.12	4140791.5	167.52	147.1	119.56	135.77	157.32	0.1455	0.06836	0.34327
799	582389	4140815.75	147.3	129.4	104.41	119.47	138.24	0.1278	0.06005	0.30152
800	582391.19	4141093.5	65.29	57.72	44.31	53.66	61.46	0.0565	0.02655	0.13331
801	582402.88	4140864.5	117.39	103.24	82.07	95.59	110.25	0.1017	0.04780	0.24003
802	582404.31	4141589.5	31.21	27.27	20.04	25.75	29.58	0.0268	0.01258	0.06318
803	582405.06	4141142.25	57.89	51.15	38.86	47.85	54.64	0.0501	0.02354	0.11818
804	582410.5	4141251.25	47.72	42.11	31.62	39.61	45.15	0.0412	0.01938	0.09733
805	582415.44	4140637.75	455.39	400.59	333.88	372.14	434.49	0.3993	0.18767	0.94234
806	582416.69	4140913.25	96.79	85.12	66.73	79.29	91.11	0.0838	0.03939	0.19779
807	582422.38	4140662	336	295.04	245.1	273.67	318.54	0.2937	0.13802	0.69306
808	582429.25	4140686.5	265.38	232.8	192.12	215.89	250.56	0.2314	0.10873	0.54599
809	582430.5	4140962.25	81.85	71.9	55.66	67.51	77.25	0.0708	0.03329	0.16717
810	582436.19	4140710.75	218.53	191.68	156.72	177.81	205.81	0.1901	0.08935	0.44866
811	582438.25	4141349.25	39.91	34.96	25.95	33.36	37.91	0.0344	0.01618	0.08123
812	582443.06	4140735.25	184.31	161.74	130.85	150.22	173.4	0.1601	0.07525	0.37785
813	582444.44	4141011	70.65	61.94	47.44	58.66	66.86	0.0611	0.02872	0.14422
814	582450	4140759.5	158.53	139.19	111.42	129.61	149.2	0.1376	0.06467	0.32471
815	582456.94	4140784	138.26	121.4	96.21	113.49	130.3	0.1199	0.05637	0.28304
816	582458.31	4141060	61.9	54.16	41.08	51.75	58.73	0.0535	0.02516	0.12632
817	582466.06	4141447	34.11	29.61	21.8	28.54	32.49	0.0293	0.01378	0.06917
818	582470.75	4140832.75	109.34	95.83	74.66	90.58	103.45	0.0948	0.04454	0.22366
819	582472.25	4141109	54.97	47.95	36.07	46.21	52.25	0.0475	0.02232	0.11208
820	582484.56	4140881.5	89.99	78.53	60.4	75.22	85.45	0.0779	0.03662	0.18389
821	582484.81	4140609.25	439.51	387.83	322.57	357.11	417.91	0.3850	0.18094	0.90857
822	582491.62	4140633.5	317.73	279.37	230.13	258.74	300.67	0.2773	0.13034	0.65449
823	582493.88	4141545	29.59	25.41	18.62	24.79	28.24	0.0253	0.01191	0.05978
824	582498.38	4140657.5	247.09	216.88	176.32	201.9	233.3	0.2151	0.10110	0.50763
825	582498.38	4140930.25	76.27	66.2	50.44	64.26	72.63	0.0660	0.03100	0.15567
826	582500	4141206.75	44.72	38.7	28.81	37.94	42.71	0.0386	0.01813	0.09104
827	582505.19	4140681.5	200.59	175.93	140.95	164.78	189.42	0.1743	0.08194	0.41143
828	582512	4140705.75	167.67	146.92	116.02	138.71	158.64	0.1456	0.06843	0.34360
829	582512.19	4140979	66.07	57.01	43.15	56.05	63.06	0.0571	0.02682	0.13468
830	582518.81	4140729.75	143.66	125.61	97.95	119.79	136.31	0.1247	0.05859	0.29421
831	582525.62	4140754	125.22	109.13	84.23	105.24	119.18	0.1086	0.05104	0.25630
832	582526	4141027.75	58.14	49.91	37.55	49.62	55.65	0.0502	0.02358	0.11841
833	582527.81	4141304.75	37.51	32.14	23.77	31.91	35.96	0.0323	0.01516	0.07613
834	582539.19	4140802.25	99.42	85.91	65.41	84.69	95.15	0.0861	0.04047	0.20323
835	582539.81	4141076.5	51.86	44.28	33.17	44.44	49.72	0.0447	0.02101	0.10548
836	582552.81	4140850.5	82.34	70.43	53.28	70.84	79.11	0.0712	0.03346	0.16803
837	582555.62	4141402.5	32.17	27.28	20.09	27.42	30.93	0.0276	0.01296	0.06508
838	582556.19	4140586.5	378.24	333.02	272.11	307.55	358.21	0.3298	0.15502	0.77839
839	582563	4140610.5	262.64	230.53	183.06	217.35	249.57	0.2286	0.10746	0.53957
840	582566.44	4140898.75	70.29	59.53	44.93	60.89	67.72	0.0607	0.02852	0.14319
841	582569.75	4140634.5	200.36	174.56	135.58	169.05	191.56	0.1742	0.08188	0.41116
842	582576.56	4140658.75	162.05	139.77	107.05	138.98	155.83	0.1407	0.06615	0.33214
843	582580.06	4140947	61.32	51.47	38.81	53.4	59.2	0.0528	0.02483	0.12470
844	582583.31	4140682.75	136.74	116.67	88.73	118.72	132.1	0.1186	0.05574	0.27988
845	582583.44	4141500.25	28.02	23.48	17.27	23.88	27	0.0239	0.01125	0.05647
846	582590.06	4141163.25	41.68	34.91	26.02	36.18	40.25	0.0358	0.01683	0.08451
847	582590.12	4140706.75	118.62	100.13	75.94	103.91	114.98	0.1027	0.04828	0.24241
848	582593.88	4140995.75	54.27	45.22	34.07	47.46	52.52	0.0467	0.02195	0.11023
849	582596.88	4140730.75	105.01	87.81	66.53	92.59	102.04	0.0908	0.04267	0.21428
850	582607.69	4141044.5	48.65	40.29	30.32	42.66	47.16	0.0418	0.01965	0.09869
851	582610.5	4140779	85.63	70.53	53.47	76.13	83.46	0.0738	0.03471	0.17427
852	582617.69	4141260.75	35.18	29.19	21.69	30.6	34.11	0.0302	0.01417	0.07116
853	582624	4140827	72.49	59.09	44.84	64.74	70.79	0.0624	0.02932	0.14724
854	582628.38	4140566.25	231.4	177.42	139.4	214.54	231.39	0.1988	0.09345	0.46924
855	582635.19	4140590.25	176.47	135.95	106.27	163.59	176.21	0.1517	0.07130	0.35801
856	582637.62	4140875.25	62.84	50.83	38.63	56.28	61.47	0.0540	0.02538	0.12746
857	582641.94	4140614.25	145.03	112.02	87.24	134.5	144.73	0.1247	0.05861	0.29430
858	582645.31	4141358.25	30.31	24.92	18.48	26.36	29.48	0.0259	0.01218	0.06115
859	582648.75	4140638.25	124.08	95.98	74.54	115.12	123.8	0.1067	0.05015	0.25182
860	582651.19	4140923.25	55.52	44.65	33.97	49.8	54.4	0.0477	0.02240	0.11250
861	582655.5	4140662.5	108.8	84.21	65.28	100.94	108.54	0.0936	0.04397	0.22079
862	582662.31	4140686.5	97.16	75.21	58.24	90.13	96.92	0.0835	0.03926	0.19714
863	582664.75	4140971.5	49.71	39.79	30.3	44.62	48.78	0.0426	0.02004	0.10063
864	582669.06	4140710.5	87.94	68.05	52.66	81.53	87.7	0.0756	0.03552	0.17836
865	582672.94	4141455.75	26.52	21.59	16.01	23	25.84	0.0226	0.01062	0.05332
866	582678.31	4141019.5	45	35.89	27.29	40.39	44.2	0.0386	0.01812	0.09099
867	582681.5	4141123	38.6	30.96	23.37	34.38	37.81	0.0330	0.01552	0.07794
868	582682.62	4140758.75	74.13	57.29	44.3	68.6	73.83	0.0636	0.02991	0.15017
869	582696.25	4140806.75	64.24	49.57	38.32	59.32	63.88	0.0551	0.02588	0.12996
870	582708.69	4141219.5	32.94	26.28	19.77	29.28	32.32	0.0281	0.01322	0.06636
871	582709.75	4140855	56.66	43.7	33.75	52.2	56.28	0.0485	0.02280	0.11450
872	582723.38	4140903	50.67	39.07	30.14	46.58	50.31	0.0434	0.02038	0.10232
873	582735.88	4141316	28.6	22.71	17.04	25.35	28.12	0.0244	0.01145	0.05750
874	582736.94	4140951.25	45.76	35.3	27.17	42	45.46	0.0391	0.01839	0.09237
875	582750.5	4140999.25	41.73	32.18	24.7	38.21	41.45	0.0357	0.01676	0.08414

876	582763.44	4141413.25	25.15	19.84	14.87	22.2	24.76	0.0214	0.01004	0.05042
877	582777.62	4141095.5	35.35	27.25	20.82	32.2	35.11	0.0301	0.01417	0.07114
878	582804.75	4141191.75	30.5	23.51	17.89	27.64	30.3	0.0260	0.01220	0.06128
879	582831.88	4141288	26.69	20.55	15.57	24.06	26.52	0.0227	0.01066	0.05352
880	582859	4141384.25	23.63	18.13	13.72	21.18	23.48	0.0200	0.00941	0.04727
Max		609.88	531.12	457.36	526.02	597.04	0.544284	0.25581348	1.28451024	